Promoting Environmental Knowledge and Attitude of Students through Intergenerational Education Strategy of Role Play

By

Oyerinde, S.A.

and

Ajitoni, S.O. Ph.D

Abstract

Environmental degeneration is on the increase in Nigeria. This had resulted in erosion, flooding, pollution, deforestation and soil infertility, among others. The solution to these problems lies in intergenerational activities that bring individuals of different age together as partners to explore, study and work towards shared goals. Therefore, this study determined the effects of intergenerational education strategies of role play and the moderating effects of educational background on students and parents environmental literacy in Social Studies. The pretest, posttest, control group, quasi-experimental design with a 2 X 2 factorial matrix was adopted. Three hundred JSS 3 students selected from nine private secondary schools in Osun State, Nigeria and their parents, were involved in the study. Four hypotheses were tested at 0.05 level of significance. Data were analyzed using t-test statistics and findings revealed that experimental group performed significantly better in environmental knowledge ($t=24.28$; $p>0.05$) and attitude ($t=22.93$; $p<0.05$). There was also significant difference in students environmental knowledge and attitude based on parental education background ($t=22.8$; $p>0.05$). Based on the findings, it was recommended that for more effective environmental education and to tackle environmental problems decisively, role play strategy should be adopted.

Introduction

Human civilization has increasingly advanced through continuous exploration, cumulative acquisition of knowledge and accompanying exploitation of the environment. These activities, which are carried out with a view to increasing the standard of living and enhancing the quality of life, constitute the human enterprise system referred to as human growth and advancement. Human growth and advancement, in all ramifications, imply the increasing ability of successive generations to explore, know and exploit the environment (Imevbore, 2004). By product of these is seen in population growth and the resultant desire for food and energy.

Increased need for food, energy and population pressure, has made serious demands on the environment. In the desperate bids to meet these demands, human beings had put the quality of the life-supporting and development-sustaining physical environment in jeopardy by causing some serious dislocations of the many processes in the environment. Thus, an observable feature of the environment today, both locally and globally, is the rate at which the environment **is** deteriorating. This is not to say that environmental problems are new, but that they simply on the increase and are threatening to become uncontrollable (Olatundun, 2008; World Bank, 2006). In effect, one of the greatest challenges facing the human race today is how to achieve sustained and equitable development. This is because human beings cannot survive without those materials of nature such as air, food and warmth.

It has now dawned on many nations, advanced or developing, as noted by Maconick (2000) and Scoullous and Malotidi (2004) that, the growth of their economics and the development of their societies are being stunted or destroyed by costs associated with their use of their natural resources. Such costs are evident in reductions in agricultural productivity through soil erosion, deforestation and reductions in soil fertility, increase in disease through release of pollutants into the air and water, losses from reduced productivity of hydro-electric and irrigation schemes through soil run off and siltation of dams (Maconick, 2000). Sustaining development means preventing these costs from destroying the gains of the past and preventing the destruction of further gains in the future. If Nigeria and the other nations of the world wish to maintain the current levels of economic development, they must now take due account of such costs by protecting their environments. The protection of the environment is an essential part of development. Without adequate environmental protection, development is undermined; without development, resources will be inadequate while investments and environmental protection will fail (Evans, 2002; World Bank, 2006). There is no doubt that the world contains finite resources and that there are limits to economic growth. Where this limit is and how soon humans will reach it is not known.

Environmental degradation has three damaging effects (World Bank, 2006). First, it damages human health. The health of hundred of millions of people, according to Akpan (2009), is threatened by contaminated drinking water, particulates in the air, particularly in towns and cities and smoky indoor air caused by use of such cooking fuels as dung and wood. Second, it reduces economic productivity. Productivity of the natural resources is being lost in Nigeria and many parts of the world because of the overuse and pollution of renewable resources– soil, water, forests and the like. The third is that environmental degradation leads to the loss of 'amenities' a term that describes the many other ways in which people benefit from the existence of an unspoiled environment. The earth is therefore of crucial importance to the survival of human beings. This is fundamentally so because, to date, the earth is the only planet in the universe where life is known to exist. It is on this planet, earth, that an intrinsic chain of life support system is found.

From the foregoing discussion, it is evident that the better the understanding of the environment people have, the more effectively it can be used to support development. Also, a general awareness of the environment and its associated problems is required among policy makers for better integration of environmental concerns into development planning and policy. Such awareness among the general public also helps in creating attitudes, motivation and commitment to adopt environmentally sound approaches in seeking their livelihood. These positions underline the fact that environmental problems are essentially people-centred (Wallace, 2006). The ideas, attitudes and behaviours of different sections of the populace are critical variables in efforts to resolve or prevent such problems.

From Tbilisi in 1977 to Kiev in 2003, education has been acknowledged globally as a fundamental tool for environmental protection and sustainable development (Scoullos & Malotidi, 2004). To this end, formal educational systems have integrated environmental education, education for environment and sustainability and very recently, education for sustainable development in the school curricula, particularly in Nigeria (Oladapo, 2011). The Social Studies curriculum, developed by the NREDC in 2007, apart from taking into consideration societal needs within the education system at the levels of Basic Education and Junior Secondary education, has incorporated many of the contemporary issues of local and global concern such as environmental issues,

concepts and problems, drug abuse, child/women trafficking, family life education, among others.

Social Studied education deals with human interactions and the reciprocal relationship of humans and the environment with all the interplay of human culture (Mansaray, 1996). The discipline deals with human's social economic and political behaviour at any places, where people live, or have lived now, or in the past (Lee, 2006). Hence, a lost of environmental education concepts, generalizations and themes have found their way into the curricula of Social Studies at all levels of Nigeria's education system. Social studies as a school subject is trying to teach students that human society is living in a particular physical environment. People settle and live on a particular land area, using everything that appears on the surface of that land and even underneath it (Ogundare, 2010).

The apparent need for ecologically sound environmental management practice and the realization that education can help to change long-established habits, probably led to the infusion of Environmental Education concepts in the curriculum of Nigerian schools. In effect, much effort has been directed towards getting environmental education into schools as a living, dynamic component of the curriculum (Ajitoni, 2005). However, it is evident from the foregoing argument that much needs to be done and that somebody must do something about environmental problems. The questions that arise from thee are: What should be done and by who? Where must the solution come from: from the children or the adults? These questions are pertinent for many reasons.

First, it has been suggested that a more vigorous and practical pursuit of environmental education should be the intervention strategy for ameliorating the effects of environmental degradation (Ajiboye & Ajitoni, 2007). This is because the ultimate goal of environmental education is to change human values and behaviour across the entire social spectrum, from that of wanton exploitation of nature and ecological apathy, to a new spirit and habit, morals, ethos, ideals, principle, customs and lifestyles that will appreciate the beauty of nature (Petters, 1995). Environmental education is also to develop a culture of the environment (Ajitoni, 2005), and protect and manage it for sustainable development that will benefit this and future generations.

Secondly, many adults regard the schools as the means to transfer elsewhere their own guilt cornering the welfare of the environment. Thus, Elstgeest (2006) observed is an abstraction instead of a reality. Raising an accusing finger at children is wrong. Children do not pollute the environment the way adults do: children do not spray insecticides nor weed killers unless they are told to do so. They do not fill the air with sulphur dioxide; they do not defile surface waters with phosphates and soil slicks, nor the deep seas with nuclear wastes. Earth pollution is a problem caused mainly by adults and it should be solved by adults. Besides, Elstgeest (2006) believes that this problem leaves the children cold, simply because it is too big to grasp.

Scholars in Social Studies education had worked out strategies to effectively teach environmental education. Among such strategies were group learning strategy (Akinsola, 2004) and participatory strategies (Ajitoni, 2005), concept mapping and problem solving (Adekunle, 2005), outdoor learning (Olatundun, 2008), value education and problem solving skill (Ogunbiyi, 2006), service learning and educational trip (Gbadamosi, 2012), development of participatory programme (Oyetade, 2003) among others.

Thirdly, to date, most of the efforts in environmental education as a whole have been directed along the guidelines of science and technology (Baez, Knamiller and Smyth, 1997; Scoullos and Malotidi,

2004). Thus, in the more affluent societies, children are being raised today with considerable faith in science and technology and some live with the illusion that these alone will resolve all problems, including those that they themselves are creating with increasing consumer demands on raw materials and energy resources. This, however, is the greatest hoax of our times. This is because there is a limit to what humans can do to with their space and their natural resources, no matter how effective their scientific evaluation and their technological remedies may be. Finally, environmental education should be a continuous learning process where individuals become aware of their environment and acquire knowledge, values, skills, and experiences to solve environmental problems for present and future generations (Vaughan, Gack, Solorazo & Ray, 2005).

Thus, opinions differ in respect of who to offer environmental education – children to adults. Evans (2002) suggested working with children and young adult. Ham, Sutherland and Barbarok (2006) speculate that many teachers recognized the importance of investing their time and energy in students because children constitute a captive audience, they represent future environmental stewards and are more easily taught and influenced than adults.

Contrary views about the role of children in effecting environmental sustainability have been expressed by various writers and commentators. Sutherland and Ham (1992) believe that children are not current policy makers and that decades must pass before these children become environmental policy makers. As such, adults, and not children, should form the target audience for environmental education and training.

Environmental awareness and attitudes should not be limited to children but must extend to adults. This is so for some reasons. First, Solis (2001) advocated adult education because there is not enough time to wait for children to grow up when environmental change is need immediately. Second, the operational definition of environmental education adopted in this study is that which is in line with the Federal Government of Nigeria's environmental policy (Aina, 1989). Environmental education is a holistic approach to the learning process, whereby individuals and community acquire the knowledge, attitudes, skills, values and motivation to improve the quality of environment and attain an ecological and socially sustainable future. Both children and adults are directly affected by the environment. As such both should contribute towards making the environment healthy for living. Solis (2001), however, believes that targeting adult audiences is unlikely to occur in the near future, but if children influence their parents' environmental knowledge and attitudes, environmental education (EE) could continue to focus on children. But the question of children teaching their parents about environmental issues is a fundamental one and has cultural implications. It is also an intergenerational education issue.

Intergenerational learning refers to activities and educational programmes that bring together individuals of different ages as partners to explore, study and work towards a shared goal. These activities foster cooperation and promote interaction among generations including children, youths and older adults (Carson, 2009). Intergenerational learning is based on the hypothesis that children learn and retain conservation principles in school environments and transfer them to their parents (Vaughan, Gack, Solarozo and Ray, 2005). This assumption also rests on the view that environmental education (EE) should be a continuous learning process where individuals become aware of their environment and acquire knowledge, values, skills and experiences to solve environmental problems for present and future generations (Abe and Bhandari, 1999).

Intergenerational learning has been fund in some countries to benefit the community in so many ways. It strengthens community, maximizes human resources, expands services, encourages cultural exchange and inspires collaboration (Evans, Reid and Sa'di, 29007). On the part of youth and children, intergenerational learning enhances social skills, improves academic performance, stimulates learning and increases stability. For older adults, it enhances socialization, stimulates learning, increases emotional support and improves health (Evans, Reid and Sa'di, 2007; Vaughan, Gack, Solarozo and Ray, 2005). While all these have been taking place in many developed countries of the world, there is yet no evidence of such in Nigeria.

A lot of activities have been used to affect intergenerational learning. These activities involve youth serving older adults, older adults serving youth and older adults serving together. Some examples of learning activities are: youth teaching seniors or providing chore service; older adults mentoring youth or providing child care; and children, youth and older adults doing homework together; performing in a community theatre group or working together to improve their natural environment such as cleaning up rivers in the community; saving trees in the neighbourhood; and planting trees in the environment (Evans, Reid and Sa'di, 2007).

Although several studies have been carried out on environmental education by various scholars such as Adekunle (2005), Ogunbiyi (2006), Olagunju (1998), Marsaray and Ajiboye (1997), Ajitoni (2005), Abiona (2008), Adepoju (2003), Olatundun (2008), Nkire (2011) and Gbadamosi (2012), these studies have been largely concentrated on the formal education sector, on primary and secondary school student who are not policy makers. There have been no corresponding attempts at finding out the extent to which these school students have influenced the older adults who are policy makers. There is the need to do a research in this area of transfer of environmental information from children to their parents.

Within formal education, Swan (1985) identified that a student can receive education about the environment in the following ways: classroom instruction; role playing and the use of resource person. Role play as a method of teaching, allows learners to "get inside" and "experience" the issue through the viewpoint of a particular "actor/player." Role play is traditionally based on asking the participants to portray certain well-defined persons (e.g. a local authority officer, a farmer, an ecologist, a consumer, etc) in the context of a particular issue, a given situation with clearly defined values, seeking for a resolution (Scuollos & Malotidi, 2004).

Role play is a teaching strategy that fits within the social family of models (Joyce & Weil, 2000). These strategies emphasize the social nature of learning and see cooperative behaviour as stimulating student. First, student interest in the topic is raised. Research has shown that "interesting experiential learning activities in the classroom increases interest in the subject matter and understating of course content" (Poorman, 2002). Secondly, there is increased involvement on the part of the students in a role-play lesson. Students are not passive recipients of the instructor's knowledge. Rather they take an active part. Poorman (2002) observes that true learning cannot take place when students are passive observers of the teaching process.

In role-play, the student is representing and experiencing a character known in everyday life (Scarcella & Oxford, 1992). The use of role-play emphasizes personal concerns, problems, behaviour and active participation. It improves interpersonal skills (Teahan, 1997), improves communication skills (Huyack, 1975), and enhances communication (Ettkin & Sunder, 1972). It is believed that the practical nature of these activities in and

outside the classroom would arouse parents' interest, in children's works in school and engage in discussions with their children at home, thus leading to intergenerational activities.

In this form of intergenerational education activities a number of variables will affect the performance and participation of the students and their parents. These variables include parents' educational background, location of the school, gender of the students and their parents, occupation of parents, parents' socio-economic status, religious belief of the learners and their parents among others (Iozzi, 2008). Parental involvement in academic performance of the student is best understood when it is realized that most parents, especially the literate ones, have great expectations for their children. It is the desire of most parents that their children should excel in life and they would not leave any stone unturned to make sure that their children are given the necessary support (Adeyemo, 2004).

Available research evidence has indicated that students whose parents are involved in their education tend to have fewer behavioural problems and better academic performance and are less likely to drop out of school than students whose parents are nor involved in their school (Adeyemo, 2004). Reynolds (2004) demonstrated that a significant relationship existed between parental involvement and academic achievement. When parents are involved in the education of their children, children tend to model their parents' attitude and actions. This is to say that parents exert profound influence on every aspect of child's life.

The educational level of an individual and his or her access to educational media will impact on his/her awareness or otherwise of environmental issues and problems. People with high education may be more aware of environmental issues and problems than people with low or little formal education. As a matter of fact, illiteracy has been seen as a major impediment to social and economic development of Nigeria and as a cause of environmental degradation (Olatundun, 2008). The major part of Nigeria's population (70 per cent) lives in rural areas. Yet, the present day programme aimed at increasing environmental education and awareness has primarily helped to convert, in the words of Khosoo (2006), the "converted" and is limited to the wealthier and better educated through books, films, newspapers, magazines and aleuronic media. This segment of the population acts both as guardian and as destroyer of the environment, as is evident by their per-capital consumption of materials and the extent and nature of generation of waste. Moreover, one of the problems in trying to reach these people through the media about the environment is the sensationist mentality that dominates today's media. One week, oil spillage is on the tip of everybody's tongue, the next week it is forgotten.

In the light of the foregoing, it becomes necessary to involve all stakeholders— children and youth who are not current policy makers but future leaders, and adults who are current policy makers — in environmental awareness practices and programmes for sustainable development. This involvement could be through the interaction of children and their parents in various activities that will lead to exchange of ideas on environmental issues and problems in the community. This is an intergenerational learning. Such activities might include parents working with their children in doing the children's homework as well as discussing some of the environmental issues and problems in the community. By so doing, children may be able to transfer some of the lessons learnt in environmental education concepts in Social Studies to their parents while the parents' involvement in their children's education is enhanced and children's achievement improved.

Statement of the problem

Environmental awareness efforts and change in attitudes have been largely

concentrated on the formal education sector, on school children without corresponding attempts at finding out the extent to which those children influence the older adults, who are the current policy makers. This has greatly precluded the adults from any serious awareness of environmental issues and any meaningful contributions to efforts at reducing environmental degradation. It is against this background that this study determined the effects of role play strategies on students' environmental knowledge and attitude in Social Studies in Osun State. The study also investigated the moderating effects of parents' educational background on students' environmental knowledge and attitudes. These were with a view to fostering intergenerational links and activities between children and their parents in finding solutions to environmental issues and problems.

Hypotheses

The following hypotheses were tested at .05 level of significance.

Hypothesis One: There is no significant difference in environmental knowledge of students exposed to role play and those in control group.

Hypothesis Two: There is no significant difference in environmental attitude of students exposed to role play and those in control group.

Hypothesis Three: There is no significant difference in environmental knowledge of students based on parental educational background.

Hypothesis Four: There is no significant difference in environmental attitude of students based on parental educational background.

Scope of the Study

The study covered the three Senatorial Districts of Osun State, Nigeria. The area now designated Osun State is noted for its forest resources and rich legacy of biodiversity and species, but these species are now endangered as a result of habitat destruction and exploitation for various uses. The remaining resources have to be conserved and all hands have to be on the deck to achieve this since environmental education is now concentrated on the formal sector whereas the non-formal and informal sector too should be involved.

Methodology

This study employed a pretest, posttest, control group quasi experimental design to determine the effects of role play and parents' educational background on students' knowledge and attitudes to environmental concepts and issues in Social Studies. A total of 600 Junior Secondary school 3 students purposively selected from six of the schools in the three Senatorial Districts of Osun State participated in the study. A simple random sampling technique using balloting was adopted in selecting two secondary schools from each of the three Senatorial Districts. One of the selected schools in each district was assigned to role play strategy while the second was assigned to control group, the conventional talk-and-chalk method.

The concepts selected for the study from the Social Studies curriculum were the human environment, resources in the environment, biodiversity, ecosystem, pressures on the erosion, flooding, pollution, population issues, waste generation and management, conservation and sustainable development. These issues were among the urgent environmental necessities in Nigeria. The instruments used to collect data for the study were Role Play Environmental Education Guide (REEG), Knowledge of Environmental Concepts Test (KECT), Environmental Attitudes Scale (EAS), and Conventional Lecture Method Guide (CLMG).

Data Analysis

Hypothesis One: There is no significant difference in environmental knowledge of

students exposed to role play and those in control group.

Table 1: T-test summary table showing the difference between environmental knowledge of students exposed to role play and those in control group

Variable	N	Mean	SD	df	t-cal	t-crit	Sig.	Remark
Treatment	300	1146.84	515.45					
Control	300	716.26	461.01	598	24.28	2.0	.000	p<0.05

Table 1 above showed that there was significant difference the environmental knowledge of students exposed to role play and those in control group (t = 24.28; p<0.05). The mean scores from the Table further reveled that the students exposed to role play had better environmental knowledge than those in control group.

Hypothesis Two: There is no significant difference in environmental attitude of students exposed to role play and those in control group.

Table 2: T-test summary table showing the difference between environmental attitudes of students exposed to role play and those in control group

Variable	N	Mean	SD	Df	t-cal	t-crit	Sig.	Remark
Treatment	300	997.49	480.26					
Control	300	950.37	832.59	598	22.93	2.0	.000	p<0.05

The result in Table 2 showed that there was significant difference in environmental attitudes of students exposed to role play and those in control group (t = 22.93; p<0.05). The men scores from the Table further revealed that the students exposed to role play had higher better environmental attitude scores than those in control group.

Hypothesis Three: There is no significant difference in environmental knowledge of students based on parental educational background.

Table 3: T-test summary table showing the difference between environmental knowledge and parental educational background

Variable	N	Mean	SD	df	t-cal	t-crit	Sig.	Remark
Treatment	300	1476.46	351.22					
Control	300	716.26	461.02	598	42.48	2.0	.000	p<0.05

Table 3 revealed that there was a significant difference in environmental knowledge of students based on parental educational background (t = 42.48; p<0.05). The men scores from the Table further revealed that the students with high educational background parents had higher environmental knowledge scores than those with low parental educational background.

Hypothesis Four: There is no significant difference in environmental attitude of students based on parental educational background.

Table 4: T-test summary table showing the difference between environmental attitudes and parental educational background

Variable	N	Mean	SD	df	t-cal	Sig.	Remark
Treatment	300	1226.46	331.12				
Control	300	616.26	161.82	598	22.08	.000	p<0.05

The result in Table 4 showed that there was significant difference in the environmental attitude scores of students based on the students' parental educational background (t = 22.8; p<0.05). The men scores from the Table revealed that the students of parents with high educational background had higher environmental

attitude scores than those with low parental educational background.

Discussion

Effects of treatment on students' environmental knowledge

The main focus of the study was to determine the effects role play and the lecture method on Junior Secondary Social Studies students' environmental knowledge and attitudes. It was also to ascertain whether educational background of parents would have impacts on students' environmental knowledge and attitudes. This was an attempt to test the assumption that students learn environmental education concepts in Social Studies and transfer such learning to their parents. The findings revealed significant differences in the environmental knowledge scores of students in role play and control groups (lecture methods). The magnitude of environmental knowledge scores favoured the students exposed to role play method.

The findings showed that the experimental strategy, that ism, role play that was participatory, was more effective than the conventional method in improving students' environmental knowledge in Social Studies. This strategy gave the opportunities top students to connect learning to local topics, problems or issues. This connection assisted learners to understand the core causes of environmental problems involved in the study in their communities and their solutions.

The higher environmental knowledge score of students obtained in experimental group 1 (role play) over the control method might be attributed to active students' engagement in the teaching-learning process. The teachers served as facilitators. In the study, teachers and students became co-investigators of local problems and issues. Students took it upon themselves to solve the identified problems. For example, students were exposed to the problem of pollution in the school and in their community. They role-played the problem and also reflected on actions taken to resolve the problems of pollution they role-played. This lends credence to the submission of Poorman (2002) and Joyce and Weil (2000) that integrating experimental learning activities in the classroom increases interest in the subject matter and understanding of the course content.

In the control group, the students were passive listeners to the teachers' 'reservoir' of knowledge as the teachers dominated the lessons. This strategy encouraged learners to learn by rote. As such they were not able to master most of the things they had learnt. This can be attributed to what Ajitoni (2005), Olatundun (2008), and Gbadamosi (2012) referred to as minimal students' participation usually found in the traditional classroom where teachers' talks dominate classroom interaction.

Effects of treatment on students' environmental attitude

The findings in the study in respect of students' environmental attitude revealed that the students in the experimental group had more positive environmental attitudes than those in the control group. The superiority of role-play over the control in the acquisition of environmental attitude is probably because learners exposed to the treatment engaged in many fun-creating activities. They learnt academic work in real life or world content. This has instilled a great deal of concern for the environment in them. This has led to the resultant significant main effect of treatment on environmental attitude of the Social Studies students. This result supports the findings of Fogg (2001) and Poorman (2002), who submitted that education can only take place when students are not passive recipients of the

instructor's knowledge but they take active participants in the lesson. The result of the involvement was increased learning.

Furthermore, the results obtained showed that students exposed to the role-play instructional strategy obtained higher environmental attitude mean scores, than those in the conventional teaching strategy. Role play strategy was fund to be more effective than the lecture method. This might be because role play as a teaching strategy fits within the social family of models, where students exposed to role play were representing and experiencing a character known in everyday life, emphasizing personal concerns, problems, behaviour and active participation. The strategy improved interpersonal and communication skills and enhanced communication. It can be used in a variety of settings including the classroom. Hence, change in environmental attitude in this group was higher than those recorded by learners in the control group. The learners in the control group were only given little opportunity to learn in any deep way about the locales that were their homes or to experience those places directly.

Effect of parental educational background on students' environmental knowledge and attitude

The findings of this study in respect of the effect of parental educational background on students' environmental knowledge and attitude revealed that the educational background of parents had significant effects on their children's environmental knowledge and attitude. The study shows that the students of parents with high educational background had higher environmental knowledge and attitude scores than the students of parents with low educational background. This result supports earlier ones by Rootes (1994), Bourdieu (1996), and Toomey (1989), that parental educational background is a predicator of children's class, position and attitude to education. This is because educational access and success among the school information enhanced by the cultural information and attitudes associated with parents' class and socio-economic status. These authors further maintained that there is a correlation between environmental concern and extend education among adults, particularly education in the Humanities, Creative Arts, Arts, Social Sciences AND Biological Sciences. The educated parents who are environmentally concerned can provide environmental knowledge to their children through conversation, books, magazines and opportunities to travel. Also, Adeyemo (2004), Reynolds (2004) submitted that a significant relationship exists between parental involvement and student academic achievement. When parents are involved in the education of their children, children tend to model their parents' attitude and actions. This is to say that parents exert profound influence on every aspect of a child's life.

Conclusion

The findings of this study revealed that role play is an approach to teaching and learning that starts with the learners' immediate environment. The strategy (role play) offered various ways to extend young people's attention to things beyond the classroom to the world as those things actually are and to engage them in the process of devising solutions to the environmental problems they may confront as adult. Role play strategy increased the knowledge, attitudes and capability of student to solve environmental problems and enabled the learners to be more involved in their own learning. This, in effect, improved their performance in environmental literacy in Social Studies. Similarly, parental influence was found in many ways to be a strong determinant of students' knowledge and attitude to environmental issues and problems in Social Studies.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Teachers of Social Studies should adopt roe play in the teaching of environmental issues and concepts in Social Studies. Most of the environmental issues, concepts and problems could also be role-played by the students.
2. Role play should be used by the teacher to connect school with the community. There should also be provision for the inclusion of role play in the school time-table and should be designed as part of the normal school programme.
3. Government should organize a form of re-training programme for junior secondary school teachers on the effective use of teaching strategies with particular reference to role play strategy through workshops, seminar and conferences. This would help teachers to effectively apply active and learning strategies in the teaching of environmental issues and concepts in Social Studies.
4. Role play strategy is recommended for the teaching of environmental education, for acquisition of practical skills such as problem solving, organizing and research for all students.
5. Teacher educators and their institutions of learning should include role play in their curriculum and provide practical experiences for pre-service teachers so as to be well equipped on the use of role play and other active learning strategies.

References

Abe, O. and Bhandari, B. 1999. An overview of environmental education in the Asia and Pacific Region. Proceedings of the Intergenerational Conference on Environmental Education in the Asia–Pacific Region, Yokohama, Japan, 27-28 Feb. 1999.

Abiona, O.F. 2008. The impact of three skill strategies on students' environmental learning outcomes in sewage disposal and University of Ibadan water treatment in Biology. Unpublished Ph.D Thesis, Department of Teacher Education, University of Ibadan, Ibadan, Nigeria.

Abolade, A.O. 2001. Television and community resources. In I.O. Abimbola Ed. *Fundamental principle and practice of instruction.* Ilorin: Beldon Enterprises the Tunde Babs Printers.

Adara, S. 1993. Environmental education informal sector, problems and prospects. In Noibi Y. 1st Environmental Education Conference proceedings, Lagos, Nigeria: NCF, pp. 20-25.

Adaralegbe, A. 1980. *The Nigerian Social Studies Programme: Retrospect and prospect in Nigerian Educational Research Council* (Ed), Social Studies issues and problems. Benin Ethiope Publishing Corporation.

Adekunle, M. O. (2005). Problem-solving and concept- mapping strategies as determinants of students' achievement and attitudes in some environmental concepts in Social Studies. Unpublished Ph.D. Thesis Department of Teacher Education, University of Ibadan.

Adepoju, O.A. 2003. Evaluation of school conservation club programme of the Nigerian Conservation Foundation. Unpublished Ph.D Thesis, University of Ibadan, Ibadan, Nigeria.

Adetunberu, S.N. 1995. Students' knowledge, attitudes and practices relative to environmental education. Unpublished B.Ed project submitted to the Faculty of Education, University of Ibadan, Ibadan, Nigeria.

Adeyemo, D.A. 2004. Parental involvement, interest in schooling and school environment as predictors of academic self-efficacy among fresh secondary school students in Oyo State, Nigeria. *Electronic Journal of*

Research in Educational Psychology. No. 2-3 (1) pp. 163-180.

Agholor, P.N. 1993. Motivating African girls to study science removing socio-cultural barriers. A paper presented at the International Conference of Science Education in Developing Countries. From theory to practice: Jerusalem, Israel: Samaray 3-7.

Ajiboye, J.O. and Ajitoni, S.O. 2007. Exploring the use of the participatory strategies in developing environmental attitudes in Nigerian children: Implications for EE teaching and learning. *The Social Sciences*. 2(1).

Ajiboye, J.O. and Ajitoni, S.O. 2008. Effects of full and quasi-participatory learning strategies on Nigerian senior secondary students' environmental knowledge: Implication for classroom practice. *International Journal of Environmental and Science Education* (IJESE), 3(2) 58-66.

Ajitoni, S.O. 2005. Effects of full and quasi-participatory learning strategies on senior secondary students' environmental knowledge and attitudes in Kwara State, Nigeria. unpublished Ph.D Thesis submitted to the Department of Teacher Education, University of Ibadan, Ibadan, Nigeria.

Akpan, A.B. 2009. A survey of market women's environmental knowledge, attitudes and practices in Ibadan, Oyo State, Nigeria. Unpublished M.Ed Dissertation, Department of Teacher Education, University of Ibadan, Ibadan. Nigeria.

Baez, A.V., Knamiller, G.W. and Smyth, J.C. 2006. The environment, science and technology education. Oxford: Pergamon Press.

Bourdieu, B. 1996. *The school as a conservative force: Scholastic and cultural inequalities* in R. Dale & M. MacDonald (e3ds) schooling and capitalism. London, pp. 110-119.

Carson, R. 2009. Intergenerational education programmes. Penn State University USA: http://aee.cas.psu.edu/fcs/mk/enved:html.

Elstgeest, V. 2006. Children and the environment. In Baez, A.V. et al 2006. The environmental, science and technology education. Oxford: Pergamon Press.

Ettkin, L. and Synder, L. 1972. A model for peer group counseling based on role playing. *School Counselor*. 19(2), 215-218.

Evan, J. and Manoli 2007. An assessment of the environmental attitudes and values of school children towards three games scenario. http/www/rivernet work.org/library/v2002v/ 2n3.pdf

Evans, M.M. 2002. *Children can make a difference using a problem solving, action-oriented approach to environmental education.* New Horizons for Learning Seattle, USA. Federal Ministry of Education 9 years Basic Education Curriculum, Social Studies for JSS 1-3. http://aee.cas.psu.edu/FCS/MK/EnvEd.html, htt://www.gardenmosaics.cornell.edu, htt:www.epa.gov/aging/resources/2004ffehip.htm.

Gbadamosi, V.T. 2012. Effects of service learning and educational trips, instructional strategies on primary school pupils' environmental literacy in Social Studies in Oyo State, Nigeria.

Ham, S., Sutherland, D. and Barbarok, J. 2006. The role of protected areas in environmental education. *Journal of Interpretation*. 13(5).

Huyack, E.T. 1975. *Teaching for behavioural change*. Human Educator, 14(1): 12-20.

Imevbore, A.N.A. 2004. Environmentally sound management on national resources in Nigeria. In the Environmental and Sustainable Development in Nigeria. FEPA, Abuja.

Iwuyi, V.B.C. 1992. Influence of home background and family experience in the development of a partial-perceptional ability among Nigerian children. *Business and Educational Research*. 1:74-76.

Joyce, B. and Weil, M. (eds.) 2000. Models of teaching. Boson: Allyn and Bacon.

Khosoo, T.N. 2006. Environmental education: The Indian experience:

Non-formal education. In Baez, et al 2006. The environment, science and technology education. Oxford: Pergamon Press.

Lee, J. R. (2006). Teaching social studies in the elementary school: 7th ed. New York: The Free.

Maconick, R. 2000. Environment and the concept of sustainable development. New York: UNDP.

Mansaray, A. 1991. The marginalized in education what groups and why? UNESCO-Africa. March No. 1, pp. 17-22.

Mansaray, A. and Ajiboye, J.O. 1997. Environmental education and students' knowledge, attitudes and practices (KAP): Implication for curriculum development. *International Journal of Environmental Education,* 16(3): 317-324.

NERDC 1981. General information programme and strategies for workshop on Primary Education Social Studies Curriculum Council, 2007. Federal Ministry of Education, 9 Years Basic Education Curriculum Social Studies for JSS 1-3.

NERDC 2007. General information programme and strategies for workshop on Primary Education Social Studies Curriculum Revision. Kano, Nigeria Educational Research and Development Council, 2007. Federal Ministry of Education, 9 Years Basic Education Curriculum Social Studies for JSS 1-3.

NERDC/UNESCO 1997. Final report of the sub-regional training workshop on environmental education programme. Jan. 1992.

Ogunbiyi, J.O. 2006. Value education and teacher trainee environmental knowledge, attitudes and problems solving skills in Colleges of Education in Ogun and Lagos States, Nigeria. Unpublished Ph.D Thesis 2006.

Ogundare, S.F. 2000. Foundations of Social Studies. Ibadan: Adesesan Graphics Press.

Ogundare, S.F. 2010. Invitations to fundamentals of teaching Social Studies. Fanco-Ola Publishers, Oke-Ado, Ibadan.

Oladapo, S.O. 2012. Effect of a Participatory Environmental Education Programme on Traders' Knowledge, Attitude and Practices in Solid Waste Management in Oyo State, Nigeria. Unpublished Ph.D Thesis, Department of Teacher Education, university of Ibadan, Ibadan.

Olagunju, A.M. 1998. The impact of two curriculum packages in environmental education in Biology on learners' performance, problem-solving abilities and environmental attitudes. Unpublished Ph.D Thesis, University of Ibadan.

Olatundun, S.A. 2008. Impact of outdoor educational activities on pupils' environmental knowledge and attitude in selected primary schools in Ibadan, Nigeria. An unpublished Ph.D Thesis, Faculty of Education, University of Ibadan, Ibadan, Nigeria.

Oxford Advanced Learners' Dictionary of Current English. 6th Edition 2000.

Oyetade, E.M. 2003. Development of a participatory environmental education programme for College of Education students in Lagos State, Nigeria. unpublished Ph.D Thesis, Faculty of Education, University of Ibadan, Ibadan, Nigeria.

Petters, S.W. 1995. Natural and man-made hazards. In Petters, S.W., Ekpoh, I.J. and Bisong, F.E. 1995. (Eds). Environmental education. Lagos: Macmillan Nigeria Publishers.

Poorman, P.B. 2002. Biography and role-playing fostering empathy in abnormal psychology. *Teaching of Psychology.* 29(!): 32-36.

Reynolds, M. (2004). Group work in education and training, ideas in practice. 2nd Ed. London: Kegan Page Limited.

Scarcella, R. and Oxford, R.L. 1992. *the tapestry of language learning.* Boston: Heinle and Heinle

Scoullous, M.J. and Malotidi, V. 2004. Handbook on methods used in environmental education and education for sustainable development. Athens: Mio-ESCDE.

Sutherland, D. and Ham, S. 1992. Child-to-parent transfer of environmental ideology in Costa Rican families. *The Journal of Environmental Education*. 23(3).

Teahan, J.E.1975. Role playing and group experiences to facilitate attitude and value changes. *Journal of Social Issues*. 31(1): 35-45.

Usang, E.N. 1997. *Models of community environmental education.* Ibadan: Macmillan Nigeria Publishers Limited.

Usang, E.N. 2005. Community environmental education. Ibadan: Macmillan Nigeria Publishers Limited.

Usang, E.N. 2005. The learning community in a living environment. In E.M. Ukpong, N.U. Ntra, A.E. Obot and E.N.

Vaughan, C., Gack, J., Solorazo, H. and Ray, R. 2005. The effect of environmental education on school children and community members. *The Journal of Environmental Education.* 35(1).

Wallace, B. 2006. People, their needs, environment, ecology: Essays in Social Biology. Vol. 1, Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

Wikipedia, 2005. Outdoor education. The Free Encyclopedia.

World Bank, 2006. Development and the environment. World Development Report.