

SERVICE LEARNING AND EDUCATIONAL TRIPS INSTRUCTIONAL STRATEGIES IN SOCIAL STUDIES AS DETERMINANTS OF PRIMARY SCHOOL PUPILS' ENVIRONMENTAL PRACTICES IN SOME STATES IN NIGERIA

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Abstract

The role of Social Studies in the development of a citizenry that can utilize their acquired knowledge and skills in the prevention and solution to environmental problems has been stressed. However, many Nigerians engage in actions that are inimical to the sustainability of the environment. Researchers have focused attention on factors responsible for this problem, particularly among learners, such as instructional strategies which are neither participatory nor community-based. This study, therefore, investigated effects of service learning and educational trips instructional strategies that are not only participatory but also outdoor in social studies on primary school pupils' environmental practices in Ekiti, Osun and Oyo States, Nigeria. Three null hypotheses were formulated and tested at 0.05 level of significance. The study adopted a pretest, posttest, control group quasi experimental design. Environmental practices scale was used to elicit responses from 264 primary 5 pupils in 12 schools purposively selected. The data generated were analysed using Analysis of Covariance, Multiple Classification Analysis and Scheffe Post Hoc Test. It was found that there was a significant main effect of treatment on pupils' environmental practices. Also, school location had a significant main effect on the pupils'

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environmental practices. The two strategies are, therefore recommended for incorporation in the teaching of Social Studies at primary schools to promote environmental sustainability.

Key words: Educational Trips, Service learning, Environmental Practices, Environmental Education, Social Studies

Introduction

Earth is the natural home of the human species and it nurtures people and myriads of their activities. Adesiyan (2002) posits that if a human being nurture the environment and exploit it in a sustainable manner, he or she nurtures himself or herself. Thus, every organism sees the environment as a resource store where it can conveniently fall back on for all its needs (Okebukola, 2001).

Human relationship with the environment has always changed with time and this change has depended largely on the individuals' understanding and knowledge of the environment. The knowledge of the environment has led to series of interactions with the environment which have been seen in the human enterprise generally referred to as growth and development. The human enterprise has, in turn, resulted in environmental degradation leading to poor health, poverty and general loss of lives and property (Adeyemi, 2012; Ajitoni & Gbadamosi, 2012).

Concern about the impact of human activities, such as economic activities, on the environment has been an issue of varying importance on society's agenda. To protect the environment and prevent further degradation, policies have been formulated and conferences held at local, national and global levels to reduce the menace of environmental hazards. The need through education to reduce environment hazards has been acknowledged at conferences nationally and internationally (Federal Ministry of Environment, 2007). With the recognition of the school as a solid agent of socialization, there is the integration of environmental education into the mainstream of the educational system in Nigeria through existing subjects such as Geography, Biology, Chemistry, Integrated Science, and Social Studies at the primary, secondary and higher education level (Kola-Olusanya, 2006). However, relatively few efforts have been made at any of these levels to supplement the

traditional methods of teaching and training of teachers, organizers of educational activities, and educational administrators, with a view to producing competent staff for environmental education (Scoullos & Malotidi, 2004). Despite the aforementioned efforts to combat environmental problems, the environment as humans' natural home, is noticed to be deteriorating at a very rapid rate. This deterioration has been due to people's lack of environmental awareness, harmful socio-cultural practices, lack of necessary skills to identify, prevent and solve environmental problems, (World Wild Fund, 2008), ineffective policies that do not aim at underlying causes but attack the symptoms (World Bank, 2006), and the fact that measures that have been taken generally consist in sporadically introducing environment-related components into traditional training by discipline (UNESCO, 2002).

However, scholars have worked out strategies to effectively teach environmental education. Among such strategies are outdoor learning (Olatundun, 2008), concept mapping and problem solving (Adekunle, 2005). Though useful contributions had been made to the teaching and learning of environmental education over the years (Ajitoni, 2011; Ajiboye & Ajitoni, 2007; Olatundu, 2008), it becomes worrisome that environmental problems are still on the increase. It is reported that this deficiency arises from the way the subject is taught and learnt in schools. As observed by scholars, the use of the lecture method, dictation and note taking, for a subject that requires interactive techniques for development and sustenance of problem solving skills, has seriously impeded learning outcomes (Okebukola, 2001). People's environmental practices towards sustainable development are still not very encouraging. Environmental-degradation continues unabated. This calls for new processes of instruction that are likely to drive home the message faster and deeper than the traditional teacher-dominated classroom teaching which has failed to bring optimal learning. Instructional strategies like service learning and educational trips that present learners with options and critical thinking for action are likely to be more successful in promoting sustainable living (Smith & Sobel, 2010).

Hecht (2002) describes service learning instructional strategy as an experiential instructional strategy that provides students with

the opportunity to apply both academic and non-academic skills in real-life situations towards a common cause and identifiable goal in the community. Moreover, service-learning is an instructional strategy that engages young people in solving problems within their schools and communities as part of their academic studies or other type of intentional learning activity. Billig (2000) reported that service learning had impact on students' social development, civic responsibility, career interests and in solving environmental problems. Service learning, as a method for teaching environmental education concepts in Social Studies, is relevant and useful to this study. This is because the mission of Social Studies since its inception has been to develop informed and active citizens (Ogundare, 2010). To become responsible citizens, students must have access not only to content knowledge and core democratic values, but also to opportunities to learn citizenship skills and apply them to problems and needs in the community beyond the classroom (NCSS, 2007). Service learning provides essential opportunities for students not only to develop civic participation skills and attitudes, but also to acquire first-hand knowledge of the topics they are studying in their subjects.

Educational trips are learning experiences that involve taking learners out of school to places where students can observe first hand and study in a real life setting (Mezieobi, Fubara & Mezieobi, 2008). Abolade (2001) reported that educational trips provide opportunities for learners to explore their environment and foster school-community relations. Field trips offer the opportunity for direct experience with materials, phenomena, environmental and social problems and are task-oriented. They expose pupils to different forms of activities which include discussing critical environmental issues and problems, and visiting sites such as markets, forests, dumpsites and riversides. However, the literature reviewed revealed that service learning and educational trips instructional strategies, as useful as they are, had not been effectively utilized in Nigeria, unlike in developed countries such as the United States of America and Britain, in developing environmental knowledge among the citizens.

Studies in environmental education have shown that certain variables such as school location and gender are capable of influencing students' learning outcomes (Ogunleye, 2003). Akintunde (2004) observed that the local environment of a learner affects the level of awareness about the environment and the learner's attitude to environmental issues. Olatundun (2008) found that there was no significant effect of location on pupils' environmental knowledge and attitude. This finding contradicted the submission of Ibadan Solid Waste Management Agency (ISWMA, 1995) that the attitude of adults and children living in unplanned areas towards waste management and awareness of environmental impacts, were generally low, compared with people living in planned areas. Ahove (2000) and Hampel, Holdsworth & Boldero (1996) reported that school location impacted differently on students' learning outcomes in environmental education concepts. Adelabu (1998) reported that urban school students performed better than their rural school counterparts, but Ajayi (1998) found that students in rural schools were better in sustainable development efforts than their rural counterparts. Akintunde-Olanipekun (2002) and Danmole (1998) observed that such differences did not exist. The conclusion of Baker and Clark (1990) and Nixon (1990) was that rural dwellers had little awareness and care for the environment. This has been attributed to cultural values, tradition and expedience which vary from rural to urban settings and which could greatly impact on performance and attitude.

A analysis of the studies reviewed shows that there are conflicting results on the effects of school location on achievement. There is, therefore, the need to further provide empirical evidence on the effect of school location on environmental practices of students in Social Studies.

Problem

Today, most communities in Nigeria are battling with the challenges posed by environmental degradation. This degradation has been attributed to people's cultural practices, widespread ignorance about the importance of environmental resources, and people's lack of awareness of the implications of their actions resulting from poor

environmental literacy. A lot has been done through environmental education to improve people's knowledge, attitudes and practices but with little results. This minimal success has been linked to the fact that most of the strategies used are largely indoor, whereas most environmental degradation takes place outside the classroom. It is in the light of this that this study determined the effects of service learning and educational trips instructional strategies in Social Studies on the environmental practices of primary school pupils. The study further investigated the moderating effect of learners' school location on the dependent measures.

Hypotheses

- HO₁:** There is no significant main effect of treatment on pupils' environmental practices.
- HO₂:** There is no significant main effect of school location on pupils' environmental practices.
- HO₃:** There is no significant interaction effect of treatment and school location on pupils' environmental practices.

Methodology

The study adopted a pretest, posttest, control group quasi-experimental design using 264 (139 male and 125 female) primary 5 pupils from twelve public primary schools purposively selected from Oyo, Osun and Ekiti States in Nigeria. Intact classes were used. The schools were assigned to treatment groups by the simple random sampling technique. Five research instruments were used to generate and collect data for the study after validation, namely: Service Learning Guide for Experimental Group 1, Educational Trips Guide for Experimental Group 2, Environmental Knowledge Test and Environmental Practices Scale for the three groups, and Teachers Instructional Guide for the Control Group. The teachers were trained by the researchers for two weeks. Environmental Practices Scale was administered to the pupils before the treatment as pretest, after which all the groups were exposed to the treatment at the same time for eight weeks. Thereafter, a posttest was carried out to determine the effect or otherwise of the treatments. Data

collected were analysed using Analysis of Covariance (ANCOVA) in testing hypotheses, using pre test as covariates. The Multiple Classification Analysis (MCA) was used to determine the magnitude of the performance of the various groups. All hypotheses were tested at 0.05 level of significance.

Results

H₀₁: There is no significant main effect of treatment on pupils' environmental practices.

Table 1: Summary of ANCOVA of Post Test Environmental Practices Scores by Treatment and School Location

Source of Variance		Hierarchical Method			
		Sum of Squares	Df	Mean Square	F
Covariates	PRETEST	246.32	1	246.32	25.70 .00
Main Effects	(Combined)	975.41	4	243.85	25.44 .00
	TREATMENT	247.97	2	123.98	12.93 .00*
	SCHOOL LOCATION	726.66	1	726.66	75.80 .00*
2-Way Interactions	(Combined)	145.83			
TREATMENT	x	40.40			
SCHOOL LOCATION		82.45			
Model		1377.75	12	114.81	
Residual: within		2406.19	251	9.59	
Total		3783.94	263	14.39	11.98 0.0

Significant at P < 0.05

From Table 1, the main effect of treatment on pupils' environmental practices is significant ($F_{(2,251)} = 12.93$; $p < 0.05$). This means that there was a significant effect of treatment on environmental practices of pupils exposed to service learning, educational trip and control group.

Table 2: Multiple Classification Analysis of Environmental Practices Scores According to Treatment and School location
Grand Mean= 27.02

Treatment category	N	Predicted Mean		Deviation		Eta	Beta
		Unadjusted	Adjusted for factors and covariates	Unadjusted	Adjusted for factors and covariates		
TREATMENT							
Service learning	87	28.53	28.48	1.52	1.46	.32	.32
Educational trips	83	27.09	27.24	7.68E-02	.22		
Control	94	25.61	25.52	-1.41	-1.49		
SCHOOL LOCATION							
Urban	163	28.40	28.41	1.38	1.39	.46	.47
Peri-urban	101	24.78	24.76	-2.23	-2.25		
R = .57							
R square = .32							

*Pairs of groups significantly different at P<0.05

The Multiple Classification Analysis in Table 2 shows that the adjusted posttest environmental practices scores of the service learning instructional group was higher ($\bar{x} = 28.48$; adj. dev=1.46) than that of educational trip (=27.24; adj. dev.=.22) and control (=25.52; adj.dev.=-1.49). This order is summarized as: SL > ET > Control. This implies that the service learning instructional strategy was more potent for impacting pupils' environmental practices than the educational trip and control respectively. Further, the Scheffé tests were carried out to trace the actual sources of significance in respect of treatment and environmental practices.

Table 3: Scheffé Post hoc Tests of Environmental Practices by Treatment

Treatment	N	\bar{x}	Treatment		
			1. Service Learning Strategy	2. Educational Trips Strategy	3. Control
1. Service Learning	87	28.48		*	*
2. Educational Trips	83	27.24	*		*
3. Control	94	25.52	*	*	

Table 3 shows that the three pairs of groups had significant differences from one another. Hence, service learning ($=28.48$) was slightly different from educational trip ($=27.24$); service learning ($=28.48$) was different from control ($=25.52$) and the educational trip ($=27.24$) was slightly different from control ($=25.52$). This means that the three strategies all contributed to the observed significant effect of treatment on pupils' environmental practices their understanding of the environmental education concepts in Social Studies.

H0₂: There is no significant main effect of school location on pupils' environmental practices.

From Table 1 it was also found that school location had significant effect on pupils' environmental practices. Urban pupils had higher mean scores on environmental practices than the peri-urban pupils.

H0₃: There is no significant interaction effect of treatment and school location on pupils' environmental practices.

From Table 1, interaction effect of treatment and school location on pupils' environmental practice was significant ($F_{(2,251)}=4.30$; $p<0.05$). Figure 1 presents the nature of the interaction.

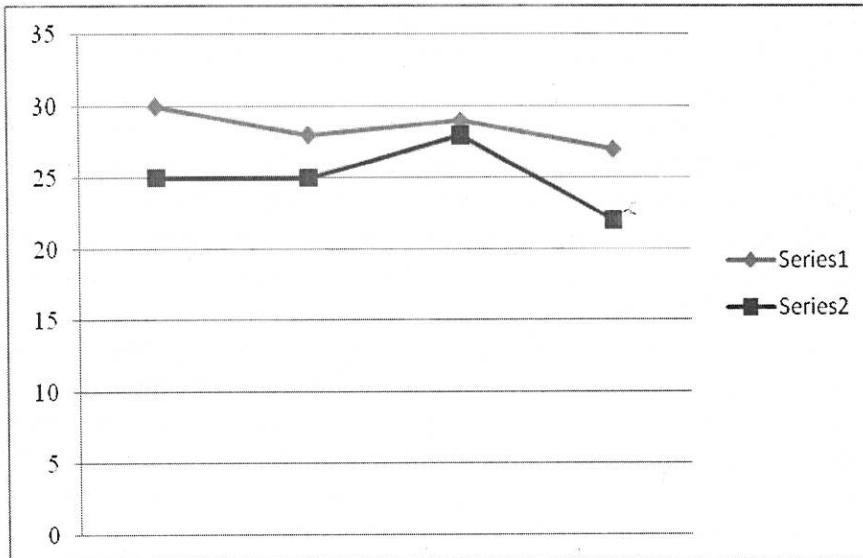


Fig. 1: Interaction effects of treatment and school location on environmental practices

The results in Figure 1 show that pupils from urban area in experimental groups one and two (service learning and educational trips respectively) obtained higher environmental practice scores than their counterparts in the control. Similarly, the pupils from peri-urban areas in experimental groups one and two obtained higher environmental practices scores than control.

Discussion of Results

Everyday human behaviour and practices impact a great deal on the environment. This behavior refers to causes and reasons, and to results and consequences of human actions on the environment. As behaviour affects the environment, it should be of concern to policy-makers who design the instruments aimed at improving environmental quality and resource conservation in Nigeria and elsewhere. The promotion of pro-environmental behavioural practices should be a central policy goal in Nigeria, and should go beyond the monthly broom-shoving sanitation exercises. Since one approach to promoting pro-environmentalism over the longer-term

is to focus on improving the environmental attitudes, behaviour and practices of children, the findings of this study are significant and laudable.

The results obtained from the study showed that the pupils exposed to the service learning instructional strategy obtained the highest mean scores in environmental practices, followed by those in educational trip and then the conventional teaching strategy. The service learning instructional strategy was superior to educational trips instructional strategy because the mean posttest environmental practices score in service learning instructional strategy was 28.48, which is higher than that of the educational trips with mean 27.24. The results might be due to the fact that activities involved in service learning gave pupils the opportunity to learn academic content, and a range of valuable practical skills including problem solving, organizing, dealing with obstacles and setbacks. The educational trips instructional strategy was more effective than and their conventional teaching strategy probably because pupils were exposed to environmental problems in their locality, the causes and, more importantly, the pupils had the opportunity to acquire technical 'know how' to solve these problems more than the pupils exposed to the conventional teaching strategy. This finding is in line with the findings of Oladapo (2012) and Scoullos and Malotidi (2004) who reported that educational visits provide opportunity for learners to explore their environment. This finding is also in agreement with Badacsonyi (1987), quoting Gyorgy Lukacs, the Hungarian philosopher, that one can have personal experience of nature only if one gets into intimate contact with parts of it, appreciating and comprehending its many aspects. Children cannot protect something they do not know, so it is essential to acquaint them with nature, and the emotional motivation for learning is very important in early childhood.

Furthermore, the environment involves the inherence of many factors of nature and society—the connection of natural and social happenings, their realization in space and time. Badacsonyi (1987) observed that to make children recognize, understand and see the connection, the meaning and the purpose of these factors, involves practically-oriented environmental education. If children are

brought face-to-face with the beauty of the external environment, they would be helped to create new patterns of individual behaviour towards the environment. Thus, the pupils exposed to educational trips and service learning were found to possess a strong and clearly definable positive relationship to nature and better social behaviour along with higher moral judgment, as displayed in their follow-up practices, than the pupils in the conventional teaching strategy.

These findings agree with those of Palmberg and Kuru (2000) in their comparison of young students, ages 11 and 12 years, with different levels of outdoor experience. Plamberg and Kuru found also that the students developed self-confidence and feeling of safety and sustainable practices in outdoor activities. Moreover, these two strategies, educational trips and service learning, have greatly helped to give the pupils skills and competencies that took them beyond mere awareness to a higher plateau of autonomous citizenship behaviour. The pupils were provided opportunities to acquire the knowledge, values, attitudes, commitment, and skills to protect and improve the environment. As a consequence, the pupils were able to create new patterns of individual behaviour and practices towards the environment.

It was also discovered that school location had significant effects on pupils' environmental practices. Urban pupils had higher mean scores on environmental practices than the peri-urban pupils. The higher environmental practices scores recorded by the urban pupils is probably because those pupils in the urban settings were able to acquire more knowledge and positive attitude to the environment which resulted in actions (practices) that they carried out. This corroborates Ajiboye and Ajitoni's (2008) finding that education leads to informed action. Therefore, urban pupils' environmental awareness resulted in the right actions (practices) on the environment unlike the peri-urban pupils who relied more on their teachers for information on environmental issues and problems because they had little evidences of environmental degradation in their immediate locality.

The outcome of the activities during the service learning and educational trips instructional strategies with the pupils has shown that to reinforce and sustain positive practices, in young children,

teachers and educators must avoid starting environmental education with a list of ecological disasters, pollution problems, deforestation and so on, but rather they should nurture an interest in nature and love for the living world (Knamiller, 1987). A list of disasters and problems might leave the children cold, simply because the problems are too big to grasp. The rationale for involving children in environmental issues is that as future decision-makers, these children represent the long-term hope for the sustainable use of natural resources, and schools offer a worldwide institutional base for mass transmission of this environmental principle.

Conclusion

Education has been acknowledged worldwide as a fundamental tool for environmental protection and sustainable development. To this end, formal education systems in Nigeria have integrated environmental education in the school curricula. However, the methods of teaching these EE concepts in Nigerian schools have not been participatory and practically-oriented. This situation calls for a consideration of participatory, active learning strategies such as service learning and educational trips. In this study, the findings show that service learning and educational trips enabled the pupils to gain experience and the relative ability to perceive nature, develop a feeling of wonder and admiration and the practice of reverence and protection towards nature. Thus, the pupils were able to acquire a relatively comprehensive understanding, cooperative encouragement and the practice of tending and conservation. Ironically, the last aspect, practice, had for too long been neglected in studies on environmental education in Nigeria. Perhaps, the reason for this is that the step from awareness of the environment to conscious acting for the environment appears, in the word of Hass (1987), to be the most difficult one.

Therefore, it can be concluded from this study that for Environmental Education to be effective and result-oriented, there should be a shift in focus from classroom-based instruction to instruction that brings out learners to have physical contact with the realities of the environment such as service learning and educational trips instructional strategies. This shift in focus will

equip pupils with environmentally friendly behaviour that will promote green economy for environmental sustainability. Service learning and field trips instructional strategies enabled the learners to make connections between Social Studies and environmental problems. This connection was essential to allow the pupils to understand the core causes of major environmental problems and the social inequalities that had resulted from these. These methods also allowed the teachers to stress the importance of instilling environmental awareness so that learners would not forget their relationship with the natural world.

Schools' location in the urban and peri-urban areas led to significant differences in the pupils' environmental practices. The urban pupils did better than the peri-urban pupils in the environmental practices measure. This might be expected as pupils in the urban schools were found to be confronted with more of the environmental problems than the pupils in peri-urban schools. Akintunde's (2004) assertion that environmental problems were more conspicuous in the urban than the rural settings in Nigeria lends support to this finding. Thus, while the pupils in peri-urban schools relied very heavily on their teachers to provide them more information on environmental issues and problems than they were exposed to within their immediate environment, the pupils in the urban areas had been acquainted with these environmental issues and problems almost on daily basis. This situation and the use of service learning and field trips instructional strategies increased the awareness, attitude, knowledge and practices of pupils in urban schools much more than those of peri-urban pupils. Similarly, pupils in the urban schools did not require much talk on environmental degradation but for the teacher to craft appropriate experiences in reflection of the issues and problems. On the other hand, pupils in the peri-urban schools required much talk and the field trips and service learning activities to improve their environmental practices. Hence, the pupils in peri-urban schools improved significantly in their environmental practices in the learning strategy that required more direction from the teacher while the pupils in urban location performed significantly better in the two strategies that made them more independent of the teacher.

Recommendations

In view of the findings of this study, the following recommendations are made:

1. Service learning and educational trips instructional strategies are good for both urban and peri-urban areas. Therefore, teachers should incorporate and use the strategies to connect school with the community.
2. Service learning and educational trips instructional strategies are recommended for the teaching of environmental education for acquisition of practical skills such as problem solving, organizing and research for all pupils, both girls and boys.
3. A major fact about a study of this nature is that children who have become an important yet a powerless majority have a lot to offer in sustaining the environment. It is, therefore, reasonable to make these children equal partners for conservation, working towards a greener and healthier world, so that they and their own children may live well in it someday.
4. Government should organize a form of re-training programme for primary school teachers in the effective use of service learning and educational trips instructional strategies.
5. The value of local knowledge, perception and practices is highly important in environmental education in enhancing sustainability. Thus, environmental actions such as planting of trees in the neighbourhood, the use of dustbin, planting of grass on lawns, provision and cleaning of drainage, among others, should be encouraged among pupils in their formative years in the urban and peri-urban schools. These activities should be on the list of schools' objectives for the management of resources—schools are to monitor water consumption, waste disposal and, where available, energy use, and manage school grounds in accordance with the principles of ecologically sustainable development, that is, schools should use their grounds and buildings as learning areas.
6. Since the findings of this study show differences in the environmental practices of pupils in the urban and peri-urban

schools, disparities which could be attributed in part to strategies used in teaching environmental issues and school location, but also to governments' policy implementation, there is the need for Nigerian governments to pay more attention to the peri-urban and rural dwellers in policy implementation and allocation of resources. The burden on governments in the peri-urban areas can be reduced by greater use of community efforts and the private sector. Similarly, donor agencies (national and international) could be encouraged by governments to pay more attention to peri-urban and rural areas for equitable development. This will go a long way in boosting the rate of return on Nigerian governments' capital investment which had for long been low and had been at the heart of the country's economic crisis.

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