The Social Sciences 2 (3): 283-286, 2007

Some Nigerian Primary School Pupils Knowledge, Attitude and Practices on Water Pollution

Olusegun Akinbote
Department of Teacher Education, University of Ibadan, Ibadan, Nigeria

Abstract: Education is a powerful instrument for improving the health and the social well being of all citizens. Primary education as the largest sub sector of any educational system offers a unique opportunity for the transformation of societies through the education of the young ones. A good knowledge of personal hygiene and good environmental sanitation could reduce or eliminate the incidence of waterborne diseases which often keep many children away from school. This study therefore, investigated some Nigerian primary school pupils present knowledge, attitude and practices with regards to water pollution. It involved 476 primary 6 pupils form 20 randomly selected schools in Osun and Ondo States of Nigeria. A 4 part questionnaire designed and validated by the investigator was the only instrument used for data collection. The results showed that majority of the pupils had a good knowledge of the causes of water pollution and had positive attitude towards the prevention of water pollution. However, many of the pupils still contribute to water pollution through some of their current practices.

Key words: Pupils knowledge, attitudes, practice, water pollution, Nigeria

INTRODUCTION

Education is generally regarded as a powerful instrument for improving the health and the social well being of all citizens. In this regard, primary education as the largest sub-sector of any educational system offers the unique opportunity for the transformation of societies through the education of the young ones. The primary school is an important avenue for inculcating in the young ones good health habits particularly in the areas of personal hygiene and environmental water problems.

Environmental problems are matters of general concern today as they have no national, ethnic, age or gender borders. The task of school education in this context has been specified as follows:

- School education should make young people aware of environmental problems,
- It should induce them to accept responsibility when dealing with the environment and
- To act responsibly as adults after leaving school (Fiz-Ka, 1997).

In Nigeria, the prevalence of water related diseases (particularly among school age children) can be attributed to the poor management of water supplies (Olokesusi, 1988). The lack of adequate social facilities in the country has made the use of bushes, refuse dumps, gutters and streams as toilets popular in both the rural and urban communities. Moreover, the discharge of industrial wastes into water ways, the concentration of phosphates in fertilizer and the excessive use of agro-chemicals to increase crop yield often polluting, rivers, lakes and streams (Mubvami, 1997).

As rightly observed by Ajiboye (1997) the major source of water supply for drinking and other domestic uses in the rural areas is mainly from rivers, streams and lakes. One may even add that the use of water from unwholesome sources is not limited to the rural areas as many people in the urban centres make use of the sources. Also, the building of septic tanks and pit latrines often pollute underground water which is now a major source of water supply for most urban dwellers (Akintunde, 2003). In other words, the problems of surface and underground water pollution in Nigeria are caused directly or indirectly by ignorance and some socio/cultural practices among others.

Children are the most vulnerable group to water borne diseases which often keep them away from school (Akinbote, 2000). Pupils must therefore not only learn to use and manage waste materials wisely, they should also understand and appreciate the risks involved in the careless ways of disposing waste materials. Thus, personal hygiene and good environmental sanitation that could reduce or eliminate the level of water pollution should be emphasized among school children.

In Nigeria, numerous workshops and projects have been embarked upon by the government and Non-Governmental Agencies on highlighting the various

environmental problems facing us. However, it seems as if not much has been done to check water pollution in our rural and urban centres.

The study: This study was therefore, carried out to determine some Nigerian Primary school pupils prevailing knowledge, attitude and practices with regards to water pollution.

Specifically, the following questions were addressed in the study:

- What do Nigerian primary school pupils know about water pollution?
- What is the attitude of Nigerian Primary school pupils to water pollution?
- Which of their current practices may further contribute to water pollution?

MATERIALS AND METHODS

The study was limited to primary 6 pupils in Ilesa and Ondo urban centres in Osun and Ondo States of Nigeria respectively. The choice of primary 6 pupils was based on the assumption that they should have attained the level of proficiency in oral and written English language to enable them complete the research instruments which were prepared in English language. The choice of the 2 towns was based on the fact that most residents use well water as their major source of water supply.

Instruments: The only instrument used for data collection was a four part questionnaire, designed and validated by the investigator Section a sought information on the pupils school, class, town and gender. Sections B, C and D were designed to elicit responses on the pupils' knowledge of, attitude to and practices which could contribute to water pollution. Each of the section consists of ten items where the pupils were to agree or disagree with items in section B and C and pick one of the alternative answers most applicable to them in Section D. The draft instrument was given to experts in Health education, environmental education and childhood education in the university of Ibadan to critically review the items with respect to their suitability, relevance and content difficulty for primary school pupils. Their suggestions and modifications were effected before the final copies were produced.

Procedure: The investigator got the approval of the secretaries of the Local Government Education Authority in Ilesa and Ondo Local Government Areas to make use of the schools. Ten primary schools were randomly selected in each town making a total of 20 schools. With the assistance of the Head Teachers of each school, the primary 6 class teachers were made to assemble their pupils and randomly picked 25 pupils from each school. The questionnaires were administered to all the participating pupils who completed and returned them on the spot. In all, 476 out of the 500 questionnaire administered to the pupils were duely completed and found useful for the data analysis. The exercise lasted 2 weeks.

RESULTS AND DISCUSSION

The data collected was computer analysed using frequency counts, percentages and t-test to answer the research questions and test the hypotheses. The results are presented in Table 1-7 in the order in which the Questions were stated.

Question 1: What do primary school pupils know about what pollution?

To answer this question, pupils responses to the items in section B of the questionnaire were computed and the results are presented in Table 1.

Question 2: What is the attitude of Nigerian primary school pupils to water pollution?

To answer this question, the pupils' responses to the items in section C of the instrument were computed. The results are presented in Table 2.

Table 2 reveals that majority of the pupils indicated that they agree with all the positively worded items and that they disagree with all the negatively worded items. This implies that majority of the pupils do not like water pollution in any form.

Question 3: Which of the pupils current practices may further contribute to water pollution?

The pupils' responses to items in section d of the questionnaire were analysed and the results are presented in Table 3.

Table 3 reveals the current practices of the primary school pupils that relate to water pollution. The table shows that majority of the pupils indicated that the major source of water supply at their various homes is well (71.1%) and they use pit latrine (50.4%), water system (45.4%), some defecate into stream/river/gutter (1.1%).

While 68.9% of the pupils throw their refuse at refuse dump, 13.7% throw it into stream or gutter. Only 22.3% of

Table 1: Primary school pupils' knowledge about waste pollution

S/N	Statement	True	(%)	False	(%)
1	Water pollution is caused by people	426	89.5	50	10.5
2	Fertilizers used by farmers can cause water pollution	326	68.5	149	31.3
3	Industrial wastes dumped in rivers can cause water pollution	423	88.9	52	10.9
4	The refuse we dump in rivers from our homes cannot cause water pollution	179	37.6	296	62.2
5	Water pollution is the cause of many diseases among school children in Nigeria	382	80.3	94	19.7
6	Disposal of human and other wastes in rivers/stream is good because they provide food for fishes and other water animals	250	52.5	223	46.8
7	Water from broken pipes is not good for drinking because it is polluted	337	70.8	138	29.0
8	People who wash clothes, cars and other things in rivers/streams cause water pollution	390	81.9	86	18.1
9	Oil spillage in the oil producing areas is a major cause of water pollution	336	70.6	140	29.4
10	Water from well dug close to latrines or septic tanks (soak away) is not safe for drinking	335	70.4	141	29.6

NB*Negatively worded statements

Table 2: Primary school pupils attitude to water pollution

S/N		A	(%)	DA	(%)
1*	Thus is nothing bad in throwing refuse in rivers and streams	42	8.8	434	91.2
2*	Dumping of human waste in nearby stream/rivers is the most…	82	17.2	394	82.8
3*	The use of chemicals for fishing purposes really does not matter as fishes and other water animals can always increase again later.	140	29.4	334	70.2
4*	People who lives in houses built over or near…	131	27.2	345	72.5
5	The dumping of wastes from factories into stream/rivers should be discouraged	327	68.7	148	31.1
6*	Urinating into streams/rivers cannot pollute the water	83	17.4	391	82.1
7*	It is not possible for water, which god gave to us freely to cause sickness in us	178	37.4	297	62.4
8	It is not good to drink water from a broken pipe	295	62.0	181	38.0
9	Washing clothes, cars and other things into rivers/streams can create health problems for us	318	66.8	158	33.2
10	All water containers should be washed regularly	383	80.5	93	19.5

NB*Negatively worded statements

Table 3: Pupils practices that contribute to water pollution

S/N	Statement	Options	Freq.	(%)
1	What is your major source of water supply at home?	Tap	92	19.3
		Well	367	77.1
		Streams/rivers	4	0.8
		River	7	1.5
2	What type of toilet do you use at home?	Water system	216	45.4
		Pit latrine	240	50.4
		Bush/refuse dump	12	2.5
		Stream/river/gutter	5	1.1
3	Where do you throw your refuse at home?	Refuse dump	328	68.9
		Stream or gutter	65	13.7
		Nearby bush	76	16.0
		Road at night	4	0.8
4	Do you often use chemical for catching fish	Yes	106	22.3
		No	338	71.0
		Not always	31	6.5
5	Do you often swim in rivers?	Yes	1321	27.7
		No	328	68.9
		Not always	15	3.2
6	Is there a stream/river near your school/house where you throw waste materials?	Yes	138	29.3
		No	295	62.0
7	How often do you wash your clothes and other things in the stream/river?	Everyday	62	13.0
		Once a week	158	33.2
		Never	250	52.5
8	Do you drink water directly from a broken pipe?	Yes	23	4.8
		No	391	82.1
		Not always	53	11.1
9	Which of the following things do you enjoy doing	Urinating into stream/river	20	4.2
		Throwing into S/R	96	20.2
		Drinking water without boiling	267	56.1
		Fetching water from broken pipes	43	9 .0
10	If I have power, I will not	A allow people to throw waste into rivers	223	46.8
		B discourage people who throw waste into rivers/streams	115	24.2
		C encourage people to dig latrines near well	66	13.9
		D do any of the above	68	14.3

them use chemical to catch fishes, 27.7% do swim in rivers and 46.2% of them do wash their clothes and other things in the stream/river. All these contribute to water pollution.

From the findings as revealed in Table 1-3, it could be inferred that, majority of the pupils had a good knowledge of the causes of water pollution (Table 1). Similarly, it could also be inferred that majority of the pupils had positive attitude towards the prevention of water pollution (Table 2). As regards the pupils' current practices that may contribute to water pollution, 50.4% use pit latrine while 13.7% throw waste into streams or rivers, 22.3% use chemicals to catch fish, 27.7% swim in rivers while 46.2% wash their clothes in rivers.

However, a situation where 77.1% use the well as their major source of water supply and about 50.4% use pit latrines should be a source of concern. The closeness of the pit latrines to the wells could be the means of underground water pollution. The fact that 56.1% drink their water without boiling calls for proper education of both the pupils and their parents. In the last 2 decades, the 2 towns have depended mostly on their wells as the major source of water supply. Since there is no assurance that pipe borne water will be accessible to majority of resident in both towns in the nearest future, it has become necessary to educate the pupils and their parents on the need to boil their water before drinking. Town Planning officers and Health officials should also ensure that pit latrines are not built near wells or streams.

Similarly, septic tanks should not be built very close to well water. As revealed in Table 3. 45.4% of the pupils use water system toilets which empty into the septic tanks.

Many of the water borne diseases which often keep children away from school could be prevented through proper education of the pupils, their parents and the general public. The Parent-Teachers Association meetings, social and civil gatherings as well as places of worship could be used to educate the people on the dangers inherent in building pit latrines and septic tanks close to their wells. Similarly the mass media could be used in the enlightenment campaign on the need to boil water before drinking.

CONCLUSION

Since this study covered only 2 of the major cities in Osun and Ondo States, it is recommended that another study which will cover more towns and villages in more states of the country should be embarked upon. This will make the findings of such studies more generalizable.

REFERENCES

Ajiboye, J.O., 1997. Community participation in environmental education and communication: Findings from a qualitative study. J. Infor. Commun. Edu. Afr., 1: 14-21.

Akinbote, O., 2000. Barriers to efficient Schooling in Nigeria and the Challenges of Mass Literacy in the 21st Century in Akindehin, O. and Adeboyeje, R.A. (Eds.), Challenges of the 3rd Millennium for Primary Education in Nigeria. Ondo, Centre for Research on Schooling, pp: 87-92.

Akintunde, S.A., 2003. Effects of structured and unstructured group interaction patterns on learning outcomes of primary school pupils in some environmental education concepts in Ibadan, Nigeria. Unpublished Ph.D Thesis, University of Ibadan, Nigeria.

Fiz-Ka, 1997. Mathematics and the Environment: A Bibliography. Int. J. Environ. Edu., 16: 338-339.

Mubvami, T., 1997. The management of hazards hazardous wastes in Zimbabwe: The case of Henane city council. Int. J. Environ. Edu. and Infor., 16: 270.

Olokesusi, F., 1988. An overview of environmental sanitation I rural Nigeria. Int. J. Environ. Edu. Infor., 7: 62-76.