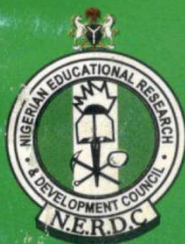


THE JOURNAL OF
**RESEARCH AND
EDUCATIONAL
DEVELOPMENT
(JORED)**

Vol. 3 No. 2



NIGERIAN EDUCATIONAL RESEARCH AND DEVELOPMENT COUNCIL (NERDC)

Table of Contents

Editorial Committee	vii
Editorial Advisers	viii
Editorial	ix
List of Contributors	xi

ENVIRONMENTAL EDUCATION AND PUBLIC ENLIGHTENMENT IN URBAN WASTE MANAGEMENT IN CALABAR, CROSS RIVER STATE, NIGERIA Dr. I. J. Ekpoh & Dr (Mrs). Uduak	1
--	---

EFFECTS OF AN HIV AND AIDS EDUCATION PROGRAMME ON TRAINEE SCIENCE TEACHERS' KNOWLEDGE AND ATTITUDE TOWARDS HIV AND AIDS Bello, Ganiyu. (Ph.D)	19
--	----

ASSESSING THE ADEQUACY OF THE NIGERIAN SECONDARY SCHOOL BUSINESS EDUCATION CURRICULA FOR MEETING THE EMPLOYMENT NEEDS OF THE NIGERIAN YOUTHS: A CASE STUDY OF DELTA STATE Robert A. Esene., Faben, Maben,, Fsb, Fnips	35
---	----

THE EFFECTIVENESS OF VALUES CLARIFICATION STRATEGIES IN THE TEACHING OF SOME ASPECTS OF JUNIOR SECONDARY SCHOOL SOCIAL STUDIES Dr. Nwaubani, Okechukwu, O.	55
--	----

THE ROLE OF LIBRARY SERVICES IN NATIONAL DEVELOPMENT: THE NIGERIAN PERSPECTIVE Enaruna Edosa and Augustine O. Uangbaoje	84
SOLAR ENERGY CURRICULUM FOR NIGERIAN TECHNICAL AND SCIENCE COLLEGES: A MODEL Enyinda N. Okey	117
THE ROLE OF INFORMATION AND COMMUNICATION (ICT) IN IMPROVING TEACHER QUALITY Dr. M.A. Onjéwu, mnim	126
TEACHERS' ASSESSMENT OF THE IMPLEMENTATION OF THE 9-YEAR BASIC EDUCATION CURRICULUM IN NIGERIA Prof. Godswill Obioma Dr. Kate Nwufo, mni	141
ADOLESCENT REPRODUCTIVE HEALTH AND HIV/AIDS PREVENTIVE EDUCATION Obasi, Nwanyi (Mrs)	164
EUPHEMISIMS AS A MEANS OF SHIPPING NEW LEXICAL ITEMS INTO HAUSA Dr. Abdullahi Garba Wurma	178
CHALLENGES AND PROSPECTS OF OPEN AND DISTANCE LEARNING (ODL) EDUCATION IN SOME AFRICAN COUNTRIES J.B. Badu (Ph.D)	190
INDEX	206

Editorial Committee

1. Editor – in – Chief - Prof. Godswill Obioma
Executive Secretary, NERDC
2. Managing Editor - Dr. Ismail Junaidu
Director, Curriculum Development Centre, NERDC
3. Associate Editor - Prof. (Mrs) Uche Nzewi
University of Nigeria, Nsukka
4. " " - Dr. Benedicta Agusiobo
USAID, Nigeria
5. " " - Prof. M. U. Malumfashi
Abubakar Tafawa University of Technology, Bauchi
6. " " - Mrs Felicia Onibon
Representative, Civil Society Action Coalition
7. " " - Mr. Victor Eguabor
Deputy Director, Book Development Centre, NERDC
8. " " - Dr. (Mrs) B. O. Ikegulu
Deputy Director, Language Development Centre, NERDC
9. " " - Dr. M. O. Salau
Deputy Director, Educational Development Centre, NERDC
10. " " - Dr. (Mrs) C. I. Ikegbunam
Deputy Director, Educational Development Centre, NERDC

Editorial Advisers

1. Prof. U.M.O Ivowi - Foremost Educational Services Ltd., Lagos.
2. Prof. Peter Okebukola - Faculty of Education, Lagos State University, Oto-Ijanikin, Lagos State.
3. Prof. Charles Onocha - Universal Basic Education Commission, Abuja.
4. Prof. I.O. Abimbola - Provost, OsunState Collage of Education, Ilesa.
5. Prof. Anthony Ali - Faculty of Education, University of Nigeria, Nsukka
6. Prof. Y.Y. Dibal - Faculty of Education, University of Maiduguri, Borno State.
7. Aminu J. Ibrahim - Snr. Special Assistant to the President on Millennium Development Goals. The Presidency, Abuja.
8. Dr. (Mrs) Kate Nwifo, mni, fcon - Director, Special Programme Centre, NERDC, Abuja.
9. Dr. (Mrs) C. Nwagbara - Director, Special Programme Centre, NERDC, Abuja.

**EFFECTS OF AN HIV AND AIDS EDUCATION
PROGRAMME ON TRAINEE SCIENCE
TEACHERS' KNOWLEDGE AND ATTITUDE
TOWARDS HIV AND AIDS**

By

Bello, Ganiyu. (Ph.D)

Abstract

This study sought to determine the effects of HIV and AIDS education programme on trainee science teachers' knowledge and attitude towards HIV and AIDS. Thirty two final year trainee science teachers in the department of Integrated science, Kwara state college of education Ilorin, Nigeria took part in the study. The instrument used for data gathering was an achievement test titled HIV and AIDS Knowledge and Attitude Test, (HAKAT) The study employed one-group pretest-posttest quasi-experimental design. The design involves administration of a pretest followed by a treatment and finally a posttest. Data analysis was carried out using simple descriptive and inferential statistics. Findings from the study revealed that the HIV and AIDS education programme significantly improved the trainee science teachers' knowledge and equally influenced their attitude towards HIV and AIDS positively. The researcher called for the extensive use of HIV and AIDS education programme to combat the spread of the disease.

Introduction

There is no doubt that the battle to survive, perpetuate the human species and live comfortably occupies central position in the long history of mankind on earth. This is primarily the result of the hostile biotic and abiotic environment in which mankind lives like other organisms. Mankind is in constant battle with other organisms right from the evolution of the human species. While it has not been too difficult for mankind to provide shelter against hostile abiotic environmental factor like extreme weather conditions; and eliminate dangerous large and small animals, the battle against microscopic pathogens still rages on. At present mankind is the most dominant species on earth in terms of ability to control and harness the environment, yet microscopic pathogens like bacteria, fungi and virus remains uncontrollable to a large extent. Indeed, right from the dawn of history pathogens have been influencing the course of human development and evolution. For instance, the Bubonic plague also called "Black Death" of 1346-1350 and the great Influenza outbreak of 1918-1919 killed several millions of people in Europe, America and other parts of the world (Adeniyi, (1999); Microsoft (2007). Malaria remains a major childhood killer disease in tropical Africa for the past decades; it afflicts 300-500 million people annually with 90% of the cases are from Africa (Microsoft 2007). While new pandemic and epidemic diseases such as Severe Acute Respiratory Syndrome [SARS], Bird Flu, HIV, and AIDS are currently major treat to humankind. The battle against malaria and polio appears to be in the final phase in recent times in favor of humankind. To a large extent mankind's ability to conquer disease

rest on adequate knowledge of the nature of disease causing agents. Hence, education has for a long time remained the most potent weapon in combating diseases. Understanding the nature of disease is however a difficult task as rightly observed by Microsoft Corporation (2003), the Ebola virus and Human Immuno-deficiency Virus are notorious examples. It is however on record that many epidemic and pandemic diseases such as small pox, and measles have been either eradicated or under control according to Mackean and Jones (1983). In the current battle against HIV and AIDS, which has spanned over two decades, the importance of education cannot be sidelined. This is the major stimulus for embarking upon this study.

Historically, HIV and AIDS was first discovered in the USA among homosexuals in New York and California in the month of June 1981. Hence it was first named Gay-related immunodeficiency disease (GRID). It was soon identified among heterosexual partners, drug users, and recipients of blood transfusions. It was in 1982 that the name was changed to Acquired Immunodeficiency Syndrome (AIDS)

Ignorance of its cause and fear of infection led some people to ascribe the disease to God's punishment for misconducts/sins in the early history of HIV and AIDS. Many Western scientists claimed that AIDS originated from remote rural areas of Central Africa around 1930, but several eminent African scientists disproved this view. They claimed that AIDS originated from North America. According to UNAIDS 2003 report quoted in UNESCO (2005) Module 1 HIV and AIDS online education programme, over 40 million adults and

4 million children globally were living with HIV and AIDS in year 2003. The worst affected region in the world is the sub-shahran African nations with South Africa as the worst affected nation. The HIV and AIDS prevalence rates exceeded 25% in some nations in the region. However, according to recent WHO report,

there is encouraging news that more countries are observing a decline in HIV prevalence among pregnant women attending ANC's (ANC attendees). Countries such as Burkina Faso, Burundi, Kenya and Zimbabwe, have joined the ranks of Uganda, where HIV prevalence declined in the early to mid-1990s. There are also some positive signs of modest declining HIV trends in cities like Abidjan(Cote d'voire) and Lilongwe (Malawi)....(WHO 2005, p. iv)

The United Nations report of June 2000 clearly revealed that AIDS is truly a development problem that endangered the socio-economic and political stability of the entire world. Indeed the damage done by AIDS is now most probably far greater than better-known calamities such as the impacts of the two world wars, Korean war, Vietnam war, and Congo war put together according to some commentators. Although natural selection process is unable to equip mankind with perfect protection against all forms of pathogens, the battle against AIDS is progressing (slowly) in favor of mankind according to the earlier cited United Nations' report and Microsoft Corporation (2003). According to Randolph and George (2003) evolutionary theory

predicts that clean needle and promotion of safe sex will help mankind to defeat HIV and AIDS.

This study sought to determine the relative effect of HIV and AIDS education programme on trainee science teachers' knowledge and attitude towards HIV and AIDS. The study attempted to provide answers to the under listed questions in order to achieve the stated purpose of the study.

1. Do trainee science teachers possess adequate knowledge of HIV and AIDS before being exposed to HIV and AIDS education programme?
- 2 Will HIV and AIDS education programme significantly improve the trainee science teachers' knowledge of HIV and AIDS?
3. What was the general attitude of trainee science teachers towards HIV and AIDS before being exposed to HIV and AIDS education programme?
4. Will HIV and AIDS education programme influence trainee science teachers' attitude towards HIV and AIDS?.

Only one hypothesis was raised and tested in this study in order to provide answer to the second research questions stated above. The hypothesis stated that; *There is no significant difference between the pre test and posttest scores of trainee science teachers in HIV and AIDS knowledge test.*

Presently there is no cure for HIV and AIDS pandemic although several research efforts are on going in several nations to find ways to effectively combat this deadly disease. The good news is that the disease can be prevented. Hence acquisition and dissemination of knowledge to prevent this killer disease remains the only potent weapon that the world community is left with against the scourge of the disease. HIV and AIDS education programme therefore becomes a major focus of the global community outside the research rooms in combating this pandemic disease. However like newly developed drugs, it is imperative to determine the efficacy of HIV and AIDS education programme in preventing the spread of the disease and developing appropriate attitudes toward HIV and AIDS victims. Findings of this study would provide useful insight into effects of education programme in combating HIV and AIDS pandemic. It could equally sensitize educators on the need to integrate HIV and AIDS education into school curriculum at all levels of the education ladder. Findings from this study could stimulate students to change their attitudes toward HIV and AIDS victims favorably and equally catalyze them to improve upon their knowledge on HIV and AIDS. The students could also be spurred to become HIV and AIDS combatants by joining NGOs working on HIV and AIDS. Results of the study could equally initiate appropriate changes in individual and group sexual behaviors thereby help to reduce the spread of the disease. Findings from this study could help to eliminate wide spread misconceptions on HIV and AIDS among the students and the society in general, and illuminate the level of students' knowledge on HIV and AIDS. The research instrument designed and used in this study could serve

as a useful guide to other investigators that are interested in empirical study on HIV and AIDS. The numerous NGOs working on HIV and AIDS in the nation could equally benefit from the findings of this study, for it could indicate to them other frontlines to combat the disease.

Method

The study employed one-group pretest-post test quasi-experimental design. The design involves administration of a pretest followed by treatment and finally a posttest. The target population of the study consisted of all trainee science teachers in Kwara State College of Education Ilorin-Nigeria.. Purposeful sampling approach was used to select only final year students in the Department of Integrated Science, Kwara State College of Education Ilorin where the researcher is a lecturer. All the 32 final year students in the department were used as representative of the target population of the study.

Two instruments were designed and used in this study, namely HIV and AIDS knowledge and attitude test (HAKAT) and HIV and AIDS education programme (HAEP) The HIV and AIDS knowledge and attitude test (HAKAT) contained two sections. All the items were based on the contents of lessons one to ten of the UNESCO (2005) module 1 HIV and AIDS online education programme. The first and the second section contained 45 and 25 items designed to assess the trainee science teachers' knowledge and attitude towards HIV and AIDS respectively. The HIV and AIDS education programme contained 12 lesson notes based on the contents of lesions 1-10 of the UNESCO (2005)

online HIV and AIDS education programme. In addition to the lessons, Internet-based information/learning materials on HIV and AIDS from several websites such as www.globalhealth.org, www.iwannaknow.com, and www.unaids.org also formed part of the education programme. The content validity of the instruments was established through peer assessment. This was achieved by making available draft copies of the instruments to three professional colleagues for comments, corrections and suggestions. The reliability coefficient of the test instrument (HAKAT) was found to be 0.76 using the Kurda-Richardson formula 21.

The first step involved in data gathering in the study was the administration of the achievement test (HAKAT) as pretest to the trainee science teachers without prior notice. This was followed by treatment, which involved exposing the same trainee science teachers to HIV and AIDS education programme (HAEP). This step lasted for 2 weeks during which the trainee science teachers were exposed to 12 lessons and several Internet based materials on HIV and AIDS. The teaching methods employed during the lessons were predominantly mixture of expository, discussion, and assignment instructional strategies. Each lesson commenced with class discussion on the contents specific websites (Internet based materials on HIV and AIDS) that the trainee science teachers were earlier directed to download and the assignment they submitted. This was then followed by expository instruction, and assignments which were usually on Internet based learning material on HIV and AIDS. The Internet based learning materials on HIV and AIDS were

carefully selected to complement the class lessons. The links to the materials were made available to the trainee science teachers during class lessons and also posted on the researcher's website, (www.freewebs.com/bllganiyu) and www.schoolrack.com/belog. The trainee science teachers carried out and submitted the assignments through the use of Internet. Usually each student was given assignment either on the contents of the current lesson or on the theme of the next lesson. The assignments were submitted through the investigator's e-mail address. The last step was the administration of post test using HAKAT.

The data gathered in the study were the trainee science teachers' scores in the pretest and post test carried out in the study. In scoring section "A" of the answer scripts, one mark was awarded for every correct answer and zero for each wrong answer. The pass mark for the test (HAKAT) was set at 40% in line with current practice in colleges of education in the nation. The scores were then subjected to t-test statistical analysis in order to test the hypothesis generated in the study.

In section "B" each response that indicated positive attitude toward HIV and AIDS was scored +1 while each response that indicated negative attitude was scored -1. Hence the maximum score was 25 marks, while the minimum was -25 marks. Based on the score obtained by each trainee science teacher, they were classified into three attitudinal groups as indicated in the table below.

Table 1 Attitudinal Grouping.

Scores	Attitudinal Groups
1 to 25	Positive attitude to HIV and AIDS
0	Neutral attitude to HIV and AIDS
-1 to -25	Negative attitude to IV/AIDS

Simple descriptive statistics such as mean, percentage and frequency count were also used to analyse the data in order to provide answer to the research questions posed in the study. The analysis of data gathered in the study was carried out in line with the research questions and hypothesis generated in the study.

Results and Discussions

The results of the data analysis carried out in the study were as presented in the tables below.

Table 2. Pretest scores of the Trainee Science Teachers in HAKAT

No of students	Total score	Mean score	Standard deviation	Range	%Passed	% Failed
323	540	16.87	9.23	4% to 100%	0	100

It is obvious from table 2 above that the trainee science teachers that took part in the study possessed

inadequate basic knowledge about HIV and AIDS before they were exposed to HIV and AIDS education programme (HAEP). Indeed none of the trainee science teachers passed the test (HAKAT). Hence it can be said that they possessed inadequate knowledge of HIV and AIDS before being exposed to HIV and AIDS education programme. This result provides answer to research question 1 raised in this study .It equally suggested that most of the trainee science teachers were either not interested in acquisition of basic knowledge about HIV and AIDS, or failed to learn meaningfully from the various public programmes and literature on HIV and AIDS prior to their participation in this study.

Table 3. Pre-treatment attitudes of Trainee Science Teachers towards HIV and AIDS

Attitude score	Attitudes	No of trainee teachers	% of trainee teachers
1 to 25	Positive	4	12.5
0	Neutral	6	18.75
-1 to -25	Negative	22	68.75

As shown in table 3, majority (68.75%) of the trainee science teachers had negative attitudes towards HIV and AIDS prior to their participation in this study. This finding may be due to their poor knowledge of HIV and AIDS as revealed in table 3 and the prevailing general poor attitudes of the society to HIV and AIDS. This

finding provides answer to research question 2 raised in this study.

Table 4. Post test scores of the Trainee Science Teachers in HAKAT

No of students	Total score	Mean score	Standard deviation	Range	%Passed	% Failed
32	1642	41.31	8.77	31% to 78%	65.62	34.37

The post test scores of the trainee science teachers presented in Table 4 above clearly revealed that majority (65.62%) of them passed the test (HAKAT) while the mean score (41.31%) also rose above the pass mark set for the test. This suggests that the HIV and AIDS education programme improved the trainee science teachers' knowledge on HIV and AIDS. In view of the fact that the post test mean score is above the pass mark set for HAKAT, in addition to the fact that majority of them passed the test, it can be said that most trainee science teachers possessed adequate knowledge of HIV and AIDS after exposure to HAEP. This finding partially provided answer to research question 2 in this study.

The only hypothesis in this study was tested using the t-test statistical technique as indicated in table 5 below.

Table 5: t-test for significant difference between the pretest and post test mean scores of Trainee Science Teachers in HAKAT

Scores	N	X	X	SD	t-value
Pretest	32	540	16.87	9.23	10.86
Posttest	32	1642	41.31	8.77	

*Significant at 0.5 alpha level

The calculated t-value ($t(62,0.5)=10.86$) was found to be significant, hence the research hypothesis was rejected. This result suggests that significant difference exist between the pre and posttest mean scores of the trainee science teachers in HAKAT. This finding indicated that the HIV and AIDS education programme significantly improved the trainee science teachers' knowledge of HIV and AIDS. It equally provides answer to research question 2 raised in this study.

Table 6: Post treatment attitudes of the Trainee Science Teachers towards HIV and AIDS

Attitude score	Attitudes	No of trainee teachers	% of trainee teachers
1 to 25	Positive	29	90.6
0	Neutral	1	3.1
-1 to -25	Negative	2	6.2

It is obvious from Table 6 that majority (90.6%) of the trainee science teachers developed positive attitudes towards HIV and AIDS after been exposed to HIV and AIDS education programme. In view of the fact only 12.5% of the trainee science teachers had positive attitude towards HIV and AIDS before taking part in this study, it can be said that the HIV and AIDS education programme influenced their attitude positively. This may be due to the improvement of the trainee science teachers' knowledge after exposure to HAEP. This finding provides answer to research question 4 in this study.

The major findings in this study clearly suggested that knowledge acquisition do influence attitudes. In combating HIV and AIDS pandemic, appropriate changes in individual and societal attitude towards sexual conducts and other critical issues in HIV and AIDS are very crucial. It is hence, essential to intensify the use of education programme in fighting HIV and AIDS.

Conclusions and Recommendations

Based on the major findings in this study it can be concluded that, the trainee science teachers possessed inadequate basic knowledge of HIV and AIDS and negative attitude towards HIV and AIDS prior to their exposure to HIV and AIDS education programme participation in this study. The HIV and AIDS education programme significantly improved the trainee science teachers' basic knowledge of HIV and AIDS. Most of the trainee science teachers developed

positive attitudes towards HIV and AIDS after exposure to HIV and AIDS education programme.

In view of the conclusions drawn in this study, it is imperative for Government agencies and NGOs to extensively use HIV and AIDS education programme in combating the spread of HIV and AIDS pandemic. Similarly HIV and AIDS education programme should become an integral component of school curricular at all levels of the education ladder in all nations. Prevention is not only better than cure it is equally cheaper than cure hence, the international community need to provide massive financial and material support for HIV and AIDS education programme especially in poor sub-Saharan African nations. Science Teacher Education programme should equip trainee science teachers with adequate disciplinary and pedagogic knowledge and skills to handle basic HIV and AIDS education programme. There is a need to train several community-based HIV and AIDS education facilitators in every community. Such community-based facilitators will be in good position to provide daily services like counseling to HIV and AIDS victims, their relatives, and the local community.

REFERENCES

Adeniyi .J.A. (1999) Health implications of zoonotic diseases in Nigeria. Lafiagi Journal

of Science Education,2 (1&2) p.7-1

Mackean, D.G. & Jones, B.M (1983). Certificate Health Science for West Africa.

London: John Murray and African University Press.

Microsoft Corporation(2003) Encarta Encyclopedia. New York: Author.

Microsoft Corporation(2007)Microsoft Students with Encarta .Premium DVD New York:

Author.

UNESCO (2005) Module I : HIV and AIDS Education. Retrieved from www.viheaf.net

Randolph ,M N & George, C. W (2003) Evolution and the origins of disease. In Encarta

Encyclopedia. New York: Microsoft Corporation.

World Health Organization (2005, December) Epidemiological Surveillance Report for

the WHO African Region 2005 Update HIV and AIDS. Harare, Zimbabwe:

Regional office for Africa.

www.globalhealth.org

www.iwannaknow.com

www.unaids.org