

EFFECTIVENESS OF SAFETY EDUCATION PROGRAMME ON GENERAL AND OCCUPATIONAL SAFETY KNOWLEDGE AMONG COLLEGE OF EDUCATION STUDENTS OYO STATE, NIGERIA

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Abstract

Inadequacy of safety education in Nigeria is responsible for serious accidents at homes, field of play, in the environment and at work. It is indeed difficult to explain the fact that scholars have not paid adequate attention to safety education in Nigeria. Whereas, teachers and school social workers are key stake holders on issues related to school safety. Purposive sampling was used to select two Colleges of Education in Oyo State while fish-bowl sampling method was used to group the schools into experimental and control groups. Three hundred (300) respondents were drawn for the study. One hundred and sixty (160) respondents from Emmanuel Alayande College of Education served as the experimental group while one hundred and forty (140) respondents from Federal College of Education (Special), Oyo served as the control group. An 8-week safety education programme was designed to inculcate knowledge on general safety and occupational safety on student teachers. Pretest-posttest control group quasi-experimental design was used for the study. A self developed questionnaire tagged Safety Education Questionnaire (SEQ) with a reliability of $r=0.86$ was used to collect data. Descriptive statistics of frequency and percentages were used for section 'A' of the instrument while descriptive analysis was used for section 'B' of the instrument. The two hypotheses generated were tested at 0.05 alpha level. The results indicate that there is significant difference in general safety knowledge between the experimental (40.71) and control group (38.90) respectively. Also, there was significant difference in occupational safety knowledge between the experimental (54.97) and control groups (52.97) after the 8-week safety education programme. It is concluded that safety education programme

had a positive effect on students' safety knowledge in both general safety and occupational safety. It is recommended that safety education generally should be injected into social work and health education curriculum to extend the frontier of knowledge where all college students in Nigeria will take courses in safety education.

KEY WORDS: Occupational safety knowledge, General education, and students in colleges of Education, safety education.

Introduction

Safety education is premised on the development of safety consciousness, attitude and understanding of individual responsibility in personal and community programmes for personal safety and accident prevention. Safe living is becoming increasingly difficult in this age where it is obvious that everyone is susceptible to accidents. Nwajei and Nwachukwu (2002) opine that safety consciousness in an individual or persons connotes that there is existence of danger of different magnitude. In the same vein, Willgoose (2003) also says that the lack of safety consciousness and awareness has become the bane of the Nigerian society today as safety issues constantly occupy the major headlines of the print and electronic media. There have been reports on building collapse, road accidents, and disasters such as flooding, earthquakes, fire outbreaks and a host of other mishaps. The resulting mortality and morbidity as well as damage to properties due to unsafe actions could be avoided if people were sufficiently informed on matters of accident prevention and safety education. Ojedokun and Mojinyinola (2012) also assert that the discussion of safety is being

linked to all other school health issues. It is important to note therefore, that the stakeholders in health education, school social work and others have important roles to play to ensure safety in schools. They need to respond early and appropriately to crises and threats to safety.

There is the need for developing assessments, mediation and conflict resolution systems, safety and crisis plans, including formulation of school health policies and programmes. It is expected that the stakeholders should ensure safe, non threatening, non-harmful behaviour in the school. Dyhouse and Summer (2005) find that students had better achievement where there existed strong instructional leadership, a safe and orderly climate, school wide emphasis on basic skills, high teacher expectations for student's achievement and continuous assessment of student progress. Therefore, proclaiming safety in schools is not out of place. Ensuring safety is one of best ways to better achievement in schools. In the same vein, Dixey (2008) asserts that, the concern for safety is an indispensable part of school effectiveness; without safety

nothing else matters. The focus simply shifted a few degrees to the social construction of the safe school as a normative environment and non-violent resolution of differences becoming normal practice.

Ojedokun and Mojinyinola (2012) further affirm that, one good thing about safety in schools is that policies protect the rights all students have to attend safe schools. The safe school model draws from and extends the effective schools. The focus shifts to the school community. The entire school community makes a commitment to behaving responsibly and there are high expectations and support for socially appropriate behaviour. Schools should therefore reinforce positive behaviour and highlight sanctions against aggressive behaviour. It is pertinent also that staff, parents, social workers, school health officers, students and community members should develop an awareness of problem behaviour, what they can do to counteract it, and how they can reinforce and reward positive behaviour. Further, there is the need to understand that the school community, by setting clear standards helps individual students to function effectively within a more actively safe normative environment.

Safety education therefore is an important aspect of human life, in school, on the roads, at home, at work or recreational centres. Perhaps, Odukogbe (2005) is right to have asserted that safety education in industries saves a lot of unforeseen circumstances, ranging from material and human resources stage to total destruction of properties. Also, Eboh and Onohwakpor (2002) say that the state

of occupational safety and health education in developing countries is much poorer than in the industrialized countries. In this trend, Kalesanwo (2002) affirms that man must not only learn how to prevent home accidents, but must first be convinced that there are various dangers that can cause accidents in the home. It is factual too; that people engage in various sports and exercises. Because accident abounds everywhere, accidents and injuries are also associated with games and sports, depending on the type, facility, equipment and the environment. Players among school pupils should of course be advised to abide by the rules of each game. Players should also be made to understand the safety rules before participating in the game.

There is the need to affirm here that accidents and injuries are major public health problems worldwide. In industrialized countries, intentional and unintentional accidents have become the third most important cause of overall mortality and the main cause of death among the 1-40 year old age group. Safe roads (2000) postulated that it is evident that the incidence of injuries is growing. In the same vein, Dixey (2008) asserts that everyday around the world, almost 16,000 people die from injuries. Several thousand or more with non-fatal injuries end with permanent disabilities. Worldwide, road traffic accidents (RTA) and self-inflicted injuries are the leading injury-related cause of death and burden of disease in males and females respectively. The incidence of fatal RTA is higher in developing countries. Similarly, Eboh Onohwakpor (2002) says that the

prevalence of accident and injury related disability calculated using the disability adjusted life expectancy (DALE) is highest in sub-Saharan Africa and lowest in countries with established market economies. The pressure of accident and injuries on the health systems is evident on the fact that one in ten hospitalizations is accident and injury related.

Nigeria is the most populous and ethnically diverse country in Africa with over two hundred and fifty ethnic groups and a population of about one hundred and twenty four million people. It has one of the highest road traffic accident rates in the world. Eboh and Onohwakpor (2002) affirm that accidents and injuries are the major cause of deaths in adults under the age of fifty years in the country. The number of potential life years lost due to acute medical emergencies especially accidents and injuries though poorly accounted for most of the accidents. These findings are very alarming and boil down to lack of safety consciousness among drivers and motorcyclists. Therefore, it is the duty of all and sundry to embrace safety education as a way of living to prevent accidents. The college students should not be left out of this. There is need for adequate information on health and safety issues to prepare them for the challenges ahead both at the school and work environment and to positively influence the safety knowledge of the school pupils.

studied, have resulted in tremendous economic and social loss to the country. It is in this trend that Dixey (2008) reports that a study of road traffic accidents (RTA) trend in the country between 1960 and 1989 revealed a sharp increase in the occurrence and mortality rate. Between 1960 and 1969, about 18,000 deaths had occurred. This has now increased significantly to 92,000 deaths between 1980 and 1989. There is similarity in incidence of accidents and injuries and its related morbidity and mortality in several parts of the sub-Saharan Africa.

Further, Ohakwe, Iwueze and Chikezie (2011) also discover that of 5,921 accident cases, reckless driving, inexperience, mechanical and road defects accounted for 30.3, 21.5 and 21.1% respectively. They also notice that private cars, mini-buses and taxis

Clean Foundation (2013) also shows that 75% of safety in Nigeria is no news. It was further reported that that more Nigerians, 1 in 3 Nigerians (or 31%) felt unsafe on the express ways while as low as 8% felt unsafe on the street lanes. Considering the report of carnage on Nigerian roads, there is the need to worry that this high perception of safety is in fact a concession of fatalism and acceptance of fate rather than assurance of having accident free road trips. Therefore, the essence of safety education at all levels of educational setting is of paramount importance.

Ojedokun (2004) earlier documents that the incidence of intentional and unintentional injuries is increasing rapidly in Nigeria. Despite insufficient data, it is apparent from media reports and hospital records that several thousand additional cases of injuries were recorded in the country within the past two and half years due to numerous ethnic and civil conflicts in the country. This has equally resulted in mass internal displacement of people and frequent unplanned journeys under tense conditions. It is almost universally accepted among Nigerians that accident and injuries are major and neglected causes of preventable mortality and morbidity in the country. In the light of the aforesaid, health and school social workers must be up and doing to educate the public on the seriousness of these lingering issues of accident prevention otherwise called safety education. It is also imperative that knowledge about safety is essential to the student-teachers so as to pass the useful information to pupils right from the cradle.

Aims and Objectives of Safety Education

Willgoose (2003) and Nonye (2004) postulate the following objectives for safety education:

1. making individuals aware of the various hazards that could lead to accidents within their environment;
2. reducing disorders and disabilities occurring to people due to accident;
3. reducing mortality rate due to accidents;
4. eliminating unnecessary dangers;
5. developing awareness of the scope and nature of accident problems;
6. developing safe attitudes that will promote accident prevention and gaining

understanding of the scope and nature of safety promotion and

7. integrating safety and accident prevention into the value structure and personal philosophy of members of the society.

In the same vein, Nonye (2004) also affirms that, certain principles are required to maintain safety conditions in various places like schools, homes, offices and work places. Such principles include: effective supervision of materials and individuals, avoidance of overcrowding of human beings and material things, regular maintenance and repair of materials, alertness to potential hazards, observance of safety rules and precautions, Thoughtful and deliberate attitudes to work, periodic medical examination and education on safety matters.

Premised on the above, there is the need for knowledge of the causes and prevention of sports accident. Gaya and Nwokoro (2002) postulate that injuries could be prevented or minimized by way of understanding their mechanisms, the nature of occurrence, development time, incidence and prophylactic measures. Therefore, Odesanmi (2001) affirms that safe living is an important factor in this modern age. Ways of ensuring abundant life, free from avoidable mishap, must thus be embraced by all and sundry. It is on this premise that, the study aims at educating the college students on general safety issues such as:

- a. being aware that accident abounds everywhere;
- b. highlighting reasons for safety consciousness;

- c. stressing the importance of preventive aspect of safety;
- d. imparting knowledge on types of occupational setting and safety issues related to them;
- e. emphasizing and extending safety precautions to general human activities worldwide.

In the same vein, International Labor Organisation (ILO, 2013) posits that the goals of occupational safety and health programmes include fostering a safe and healthy work environment. Occupational safety and healthy work environment (OSH) may also protect co-students and workers in the college and family members. The focus of occupational health and safety is on three different objectives namely: (i) the maintenance and promotion of worker's health and working capacity; (ii) the improvement of working environment and work to become conducive to safety and health (iii) development of work organisations and working cultures in a direction which supports health and safety at work and in doing so, also promotes a positive social climate and smooth operation that may enhance productivity.

Research Hypotheses

1. There is no significant difference in general safety knowledge of experimental and control groups after an 8-week safety education programme.
2. There is no significant difference in occupational safety knowledge of experimental and control groups

after an 8-week safety education programme.

Methodology

The pretest-post-test control group quasi-experimental design is used for the study. Respondents were drawn from two colleges of education in Oyo state, Emmanuel Alayande and Federal College of Education (Special) Oyo respectively. One hundred and sixty (160) students from Emmanuel Alayande College of Education and one hundred and forty (140) students from Federal College of Education (Special) both in Oyo town were purposively selected for the study. The fish bowl sampling technique was used to group the schools into experimental and control groups. Emmanuel Alayande College of Education students served as the experimental group while Federal College of Education (Special) served as the control group. A total of 300 students were exposed to pretest with the experimental group instructed on safety education for 8-weeks. Post-test was conducted after the intervention programme in each of the schools selected for the study.

The research instrument for the study was a self-developed modified Likert design questionnaire tagged safety education questionnaire (SEQ) to collect data. The questionnaire was in two sections (A and B). Section A was on demographic data of the respondent while section B sought information on variables selected for the study. Section B also elicited statements on each of the variables and responses were observed on the basis of strongly agree (SA), agree (A), disagree (D), and strongly disagree

(SD) and on ratings of 4, 3, 2, 1 respectively. The instrument was subjected to reliability test using 50 students from the Department of Human Kinetics and Health Education, University of Ibadan who were not part of the population sample to determine the reliability and the Cranach's alpha value was found to be $r = 0.86$ meaning that the instrument was reliable and could be administered on the chosen respondents.

The instrument was also subjected to field testing, using twenty (20) students from Adeniran Ogunsanya College of education, Ijanikin, Lagos state that were not part of the sample for the study and not part of the research population. Six trained research assistants helped to administer the questionnaire to collect data. The experimental group was instructed on general and occupational safety for 8 weeks. The programme lasted

for two hours daily. The same questionnaire used for pretest data collection was re-administered on both control and experimental groups. The completed copies of the questionnaire were collected on the spot with the help of the research assistants. Analysis was done using descriptive statistics of frequency and percentages for section A and descriptive analysis for section B of the instrument with the hypotheses tested at 0.05 alpha level.

Results

Ho1: There is no significant difference in the general safety knowledge of experimental and control groups after an 8-week safety education programme.

The hypothesis was tested using descriptive analysis and the details of obtained results are presented in Table 1.

Table 1: Showing Interpretation of Descriptive Analysis of the Pre-post Safety Education and General Safety Knowledge of participants

Groups		Pre-test score	Posttest score	Gain score (Differences between pre-post scores)
Experimental	Mean	36.7063	40.7125	4.0063
	Frequency	160	160	160
	Percentage	53.3	53.3	53.3
Control	Mean	35.3571	38.9000	3.5429
	Frequency	140	140	140
	Percentage	46.7	46.7	46.7

Table 1 shows that, in the experimental group, gain score between the pre and posttest scores was 40.71 whereas, the gain score in the Control group is 38.90. This shows that the Experimental group had greater gain score than the control

group. Therefore, hypothesis 1 is rejected. This implies that safety education programme had effect on general safety knowledge of student teachers in the experimental group.

Ho 2: There is no significant difference in the occupational safety knowledge of experimental and control groups after 8 weeks of safety education programme.

This hypothesis was tested using descriptive analysis at $\alpha = 0.05$. The result is shown in table 2 below.

Table 2: Showing Interpretation of Descriptive analysis of the Pre-post Safety Education and Occupational Safety Knowledge of participants

Groups		Pre-test score	Posttest score	Gain score (Differences between pre-post scores)
Experimental	Mean	49.8625	54.9688	5.1063
	Frequency	160	160	160
	Percentage	53.3	53.3	53.3
Control	Mean	47.1857	52.9714	5.7857
	Frequency	140	140	140
	Percentage	446.7	46.7	46.7

Table 2 shows that in the Experimental group, gain score between the pre and post-test scores was 54.96 whereas, the gain score in the Control group was 52.97. This shows that the Experimental group had greater gain score than the control group. The result implies that safety education programme had significant effect on occupational safety knowledge of student teachers in the experimental group.

Discussion of Findings

Ho1: The result shows that the experimental group had more general safety knowledge than the control group. It was, therefore, concluded that the treatment had a significant effect on the experimental group. Thus, the hypothesis which stated that there is no significant difference in the general safety knowledge of the experimental and control groups was rejected. The result is consistent with that of the Clean Foundation (2013) whose findings confirms that safety education is a process of providing or

utilizing experiences for favorably influencing understanding, attitude and practice relating to safe living. In addition, the result is in line with Quinan (2007) who recommends that safety education should be an integral part of the school curriculum because student teachers are in a position to educate school pupils and their relatives on specific and general safety issues. Ojedokun (2008) had earlier found out that safety education programme had great influence on student nurses' general safety knowledge and recommended that, same research should be conducted on other college students. The result is also in line with Ojedokun and Mojinyinola (2012) who posit that one good thing about safety in schools is that policies protect the rights that all students have to attend safe schools. The safe school model draws from and extends the effective schools.

Ho 2: The result also shows that the experimental group had better occupational safety knowledge than control group. Therefore, the hypothesis, which states that there is no significant difference in the occupational safety knowledge of the experimental and control groups after an eight-week safety education programme was rejected. The result is in line with Odukgbe (2005) who discovers out that safety education in industries prevents human and material resources from destruction. The increasing safety needs at work calls for absolute commitment by both employee and the employer. The result is in line with Ojedokun (2008) who observes that safety education in industries had saved unforeseen circumstances, ranging from material and human resources to destruction of properties. The finding supports the submission of Dixey (2008) who find out that occupational safety knowledge is an integral part of the success of manufacturers. Also, occupational accident is more prevalent among illiterate workers, because of their inability to read and write and because of insufficient training. Further, the prevention of industrial accidents depends on the application of general and specific safety knowledge. In the same trend, Ifeanyichukwu and Tafamel (2011) find out that very little has been done about occupational safety of the public sector including schools and colleges. Hence, there is a great need for the school managers to devote more attention to the issue of health and safety in school work place and school living environment.

Conclusion

In conclusion, there is a need for comprehensive safety education programme in colleges of education in Nigeria. The results of the study show that safety education programme on safety knowledge had a positive effect on the experimental group, which had higher scores in the post-test. The implication is that training programmes improve the level of understanding of students. It is, therefore, expected that there will be increased level of consciousness about safety issues generally and occupational safety in particular among students in colleges of education in Nigeria. The student teachers would have developed interest in safety issues and in turn, make use of the knowledge so acquired to improve pupils' safety knowledge while teaching in the classroom later in life. The study, therefore, is an on-going thing; knowledge is transferred from the researchers to college students and to the school pupils and finally to the parents at home. The end user is, therefore, the community who eventually benefits and develops safety consciousness to enhance accident prevention and ensure longevity.

Recommendations

Experimental research work is gradually gaining ground across the globe. The findings of this study gave rise to some recommendations that: the new dimension on comprehensive safety education programme should be encouraged in schools and should be at all levels of education. In the same vein, since it was observed that student teachers have developed interest on safety issues, the colleges of education curriculum

should reflect the need for general and occupational safety knowledge. This will help to improve healthy occupational and environmental conditions sequel to the level of awareness received during educational programmes.

Efforts should also be geared towards accident prevention, otherwise known as safety education rather than management of disaster victims. It is hoped that safety education will enhance safe living and consequently enhance longevity. Lastly, further studies should be carried out to determine the level of health education on safety knowledge that is not observed in this study. This will help to establish a more general efficacy of safety education on health behavioural patterns among the general populace.

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