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Promoting Peace among Nigerian Youths through Science Education

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Abstract

The study was carried out in Anambra State, of Nigeria to examine promoting peace among Nigerian youths through science education. It was a descriptive survey study. The sample was seven hundred and sixty-five (765) Corps members who graduated in science discipline that were picked by simple random sampling technique. The instrument for data collection was a four-point rating scale questionnaire titled Promotion Peace among Youths (PPAY). The instrument was validated, pilot tested and the reliability coefficient was established using Cronbach-alpha to give a reliability index of 0.72. Two research questions and one hypothesis were raised and answered using mean statistical tool. The result showed that science education can aid in promoting peace among Nigerian youths through skill acquisition, teaching spirit of service and peace, concern for environment and respect for other people's opinion through appropriate teaching methods. The study also showed that there is a significant difference between the mean ratings of male and female youths on the influence of science education in promoting peace. This is in favour of female youths.

Key Words: Peace, youth, science education and society

Introduction

The importance of peace in one's environment or globally cannot be overemphasized. Peace is a concept that helps one to live in harmony with oneself and other people in the society. To give peace a straight forward definition is a complicated thing to do because the society is bedevilled with violence and conflict. Teaching peace to the young Nigerians is a necessary thing to do because the future lies in the hands of these young adults who as adults can change the world.

The word "peace" is a complex and multi-layered concept. It can be viewed from different perspectives. The concept peace can be seen as a state of emotion that does not come from outside but from within; when one's mind is quite and calm, at that stage, the person has achieved peace. It is viewed as a peace of mind or serenity, even as a state of tranquillity. Obi (2012) sees peace as concord or harmony and tranquillity.

From the philosophical view point, peace is seen as the original and natural God made state of human existence. John Jacque Rossueau a philosopher sees peace as an original state of existence of man in which there are no desires. In that state man existed as a free and gentle savage. In this state man was naturally good, there was no greed or corruption.

Sociological aspect of peace emphasized peace as a social harmony, absence of social conflict in such a way that individuals go about their normal business and meet their needs. There are two aspects of peace from sociological view: peace is seen as a structural functionalist and dialectical materialist.

The structural functionalist's maintained that for a society to enjoy peace, it must first prepare its young ones through sound education, be able to produce the material needs of people, provide good government and security for people. To achieve these things structures like schools, industries, parliaments, courts, armed forces, and so on must be provided (Obi, 2012).

Dialectical-materialist posited that peace has to do with the way society produces and distributes its material resources, jobs and rewards.

However, the bible new testament sees peace as a harmony with oneself and other human beings. Hence, in the context of this paper, peace can be defined as a way of acquiring knowledge for an individual to live in harmony with oneself, with others and with the natural environment. To be able to acquire this knowledge to live in harmony with oneself, others and environment, a method of imparting these values is needed and that can be achieved through education of the young ones.

Education is a life-long process and the knowledge and understanding gained can positively transform one's perception about life. Education can be seen as a tool that would manifest peace in the school system, support sustainable personal and community development. School education here means something that students acquire in a special environment such as primary school, secondary school and tertiary institutions. It is pertinent to introduce peace education in the school curriculum in order to teach peace and its' values to the students.

Peace education focuses on peacemaking strategies. It is related to the idea of promoting knowledge, values, attitudes, skills, non-violence, active commitment to the development and sustenance of cooperation and democracy. Gamut (2003) viewed peace education as the deliberate attempt to educate children and adults in the dynamics of conflict and the promotion of peace making skills in homes, schools and communities throughout the world, using all channels and instruments of socialization. Harris and Synott (2002) described peace education as a series of "teaching encounters" that draw from people their desire for peace, nonviolent alternatives for managing conflict and skills for critical analysis of structural arrangements that produce and legitimize injustice and inequality.

Kalagbor and Agabi (2013) pointed out that peace education aims at teaching school children the information, attitudes, values and behaviour competences needed to resolve school conflicts without violence and to build and maintain mutually harmonious relationships. Consequently, peace education should be a central pillar in improving human relations in schools and in the society even the world at large through science teaching.

Science education emphasizes the teaching and learning of science processes and principles. One of the goals of science education is to cultivate inquiring, knowing and rational mind for the conduct of a good life and democracy (NPE, 2013). It can be seen as a field, that is, interested in sharing science content and process with individuals that are not considered as part of the science community. Science education cuts across many fields of human endeavour like the natural sciences, sociology, philosophy, psychology, art, languages, and so on. Science education in Nigeria concentrates on the teaching of science concepts, methods of teaching and addressing misconceptions held by learners regarding science concepts. Science education involves learning of Biology, Chemistry, Physics and so on in conjunction with principles and methods of education (Aina, 2014).

Science education for peace implies teaching the concept of peace through values, life skills, and knowledge in a spirit of equality, respect, empathy, understanding and mutual appreciation among individuals, groups and nations. The science education contents for promoting the concept of peace concern the content of education and training, educational resources and materials, schools and university life and science contents. This culture of peace must take root in the classroom from an early age which must reflect in the curricula at the secondary and tertiary levels.

The peaceful society everybody clamours for could be achieved through science education. The acquisition of skills is very important to the development of the nation. This is because science education would equip Nigerian youths with various skills which is necessary for self-reliance, when Nigerian youths are gainfully employed through the proper teaching of science education contents in higher institutions, there would be peace, lives and properties will not be destroyed and the youths will be able to use their God given talents together with the acquired skills to contribute to the development of the nation. The appropriate acquisition of skills and application of these skills will help to curb youthful unrest in our nation.

Ogundele, (2010) stressed that skills acquired through science and technical education would prepare the young ones for any specific job with a lifelong opportunity for self-development. It is no gain saying that youths are the driving agents for change therefore conducive environment should be created for them to prosper, exercise rights, regain hope, have a sense of community and engage as responsible social actors. It is vital that they are fully engaged in social change. Their energy, creativity and critical spirit in identifying innovative solutions and building bridges as networks across groups have been demonstrated in several regions, (UNESCO, 2012).

The peace once enjoyed in the society has suddenly been disturbed by some youthful uprisings coming from different regions of the society. Youth restiveness in Nigeria has been a prominent issue in recent times. Shadrach (2017) and Anasi (2010) pointed out that acts of violence and lawlessness like kidnapping, oil bunkering, robbery, religious insurgency, to mention but a few are on increase in the society. Oluwatoyin (2016) expressed that some of the challenges facing Nigerian society today are the faceless religious group called "Boko Haram", Niger Delta Avengers militant group and Oodua people's congress. The group members of these groups are made up of energetic youths.

Elegbeleye (2005) and Ofem and Ajayi (2008) identified some causes of youthful restiveness as unemployment, corrupt practices of government officials, lack of quality education, inadequate recreational facilities, to mention but a few. All these problems can be solved through the use of

process skills in science education. The process skills in the three main areas of science education are as follows: -

In Biology education, the process skills that could be inculcated in students are snail and poultry farming, production of wine from edible flowers, fishery, and so on (Azubuike 2014 & Nnoli 2014).

Jack and Dimas (2015) outlined some opportunities in chemistry education in which relevant skills could be acquired which that would help youths to be job creators. Chemistry teachers could teach students through cooperative learning as well as use of group assignment by Njelita (2015) to produce the followings:

- i. alcohol by fermentation of starch materials
- ii. soaps through saponification process.
- iii. dye which can be used in textile industries.
- iv. anti-bacterial soaps
- v. salad dressing.
- vi. indicators of various types
- vii. new materials from wastes through recycling process.
- viii. of fibres from plant and banana plant peels, to mention but a few.

In physics education, students could learn ceramic production through study of semi-conductor; students could be electricians through studying electricity and magnetism and even sell electrical accessories, (Aina, Ogundele and Rafill 2014). Students could also learn how to construct sockets and metre rule. (Nnoli 2014).

Youthful unrest can be curbed in our society, if the school authorities will expose students to skill acquisition opportunities that are embedded in science education irrespective of the area of study. This would make Nigerian youths to be duty bound, that is keeping them busy and this would help in achieving peace in the society. The study of science process skills in science education affords the Nigerian youths an opportunity to be self-employed. Promoting peace in Nigeria could be achieved through engaging youths in worthwhile activities, when students are full of activities that are of interest, it keeps them busy and they channel their energy into things that would benefit the society, thereby, forming a culture of peace for both present and future generations. If youths are effectively exposed to science process skills opportunities in science education, they would be job creators instead of job seekers hence, achieving the desired peace in the environment.

Having their own small businesses would help them to be busy, thereby the opportunity to use them as political thugs and other crimes will stop or completely reduced to a minimal and the peaceful society which everybody is clamouring for will be acquired.

From the discussions so far, one would see that in order to gain this great peace needed in the society, Nigerian youths must be gainfully employed. This can be achieved through an effective science delivery in Nigerian higher institutions of learning, therefore the problem of this paper is to identify the opinion of Nigerian youths on influence of science education in promoting peace.

Purpose of the Study

The purpose of the study is to identify the roles that science education can play in promoting peace among Nigerian youths and to determine the influence of gender in inculcating peace among science youths through science education.

Research Questions

The questions raised in the course of the study were: (1) what are the roles of science education in promoting peace among Nigerian youths? (II) What is the influence of gender in promoting peace among youths through science education?

Research Hypothesis

There is no significant difference between the mean ratings of male and female youths in promotion of peace through science education.

Research Methods

The design of the study was a descriptive survey design and it was carried out in Anambra state. The study was done using the entire batch 'A' science disciplined Youth Corps members who served in Anambra State in 2015.

Anambra State has twenty-one (21) local government areas which are divided into three (3) senatorial zones of Anambra North, Anambra South and Anambra central. All the senatorial zones were used for the study. By simple random sampling, three local government areas were selected from each senatorial zone. In the selected local government areas, eight five (85) Youth Corps members were selected. A total of seven hundred and sixty-five (765) Youth Corps members were used for the study (465 males and 300 females).

The instrument used for data collection was titled "Promoting Peace Among Youths" questionnaire (PPAY). It has two sections: A and B. Section A contains the bio-data of the respondents, while section B contains fourteen (14) items developed in four (4) point scale of strongly agree-4, agree-3, disagree-2 and strongly disagree-1 by the researchers.

The instrument was validated by some experts and the reliability co-efficient was established to be 0.72 using Cronbach alpha method. The data collected was analysed using mean statistical tool.

The decision for answering the research questions was based on theory of real numbers and 2.50 which is the lower limit of 3.00 was chosen as the cut-off point.

Results

Research question I: What are the roles of science education in promoting peace among Nigerian youths?

Table I: Roles of chemistry education in promoting peace.

S/N	Items	\bar{x}	Decision
1	Peace can be promoted among youths through appropriate teaching methods such as cooperative learning and use of group assignment.	2.83	Agreed
2	Values and attitudes of the society should be taught through school curriculum.	3.50	Agreed
3	Respect for others regardless the race, genders and religious beliefs should be taught through school curriculum.	2.00	Disagree
4	Students should be taught citizenship concern for the environment.	2.83	Agreed
5	Youths should be taught to respect the views of other people.	2.50	Agreed

6	Students should be taught to share and work with one another.	1.83	Disagree
7	Ability to resolve conflicts should be taught through science education.	1.83	Disagree
8	Unemployment should be curbed among youths by teaching skill acquisitions through science education.	1.83	Disagree
9	Values, attitudes and ways of life should be inculcated among youths within the early stage of schooling.	2.83	Agreed
10	Respect for life, ending violence and practice for non-violence should be taught to youths through science education dialogue.	2.50	Agreed
11	Science process skills should be inculcated across discipline/careers boundaries.	2.67	Agreed
12	Skills for peace and non-violence must be taught through meditation, active listening and co-operative learning.	3.17	Agreed
13	Spirit of service must be inculcated among youths through teaching science education.	3.33	Agreed
14	Teaching peace through science education helps the youths to see themselves as agents of change in the society.	3.33	Agreed
Grand mean =		2.64	

From table I, the respondents agreed that science education can promote peace among the youths through the following ways: use of appropriate teaching methods, societal values to be included in the school curriculum, citizenship concern for the environment and respect for other peoples' opinion should be taught in schools, teaching skills acquisitions, spirit of service and peace could be taught to the youths through the use of science education. The grand mean is 2.64 which is acceptable.

However, the study rejects the idea of teaching respect, negative aspect of science content, working together and resolving conflicts through science education.

Research Question 2: What is the influence of gender in promoting peace among youths through science education?

Table 2: Influence of gender in promoting peace among youths through science education.

S/N	Items	\bar{x} male corpors	\bar{x} female corpors	Decision
1	Peace can be promoted among youths through appropriate teaching methods such as cooperative learning and use of group assignment.	3.66	3.49	Agreed
2	Values and attitudes of the society should be taught through school curriculum.	3.41	3.43	Agreed
3	Respect for others regardless the race, genders and religious beliefs should be taught through school curriculum.	3.56	3.38	Agreed

4	Students should be taught citizenship concern for the environment.	3.60	3.45	Agreed
5	Youths should be taught to respect the views of other people.	3.63	3.67	Agreed
6	Students should be taught to share and work with one another.	3.62	3.51	Agreed
7	Ability to resolve conflicts should be taught through science education.	2.94	3.00	Agreed
8	Unemployment should be curbed among youths by teaching skill acquisitions through science education.	3.33	3.40	Agreed
9	Values, attitudes and ways of life should be inculcated among youths within the early stage of schooling.	3.60	3.62	Agreed
10	Respect for life, ending violence and practice for non-violence should be taught to youths through science education dialogue.	3.14	3.07	Agreed
11	science process skills should be inculcated across discipline/careers boundaries.	3.23	3.38	Agreed
12	Skills for peace and non-violence must be taught through meditation, active listening and co-operative learning.	3.09	3.18	Agreed
13	Spirit of service must be inculcated among yours through teaching science education.	3.27	3.09	Agreed
14	Teaching peace through science education helps the youths to see themselves as agents of change in the society.	3.44	3.376	Agreed
Grand mean =		3.14	3.35	

Table 2 showed that the mean rating of female youths was greater than that of male youths.

Table 3: Z-test of difference between two means of male and female youths' opinion in promoting of peace through science education.

Source of variation	Number of subjects	Mean	SD	Z – score cal	Z – score table
Male	465	3.14	1.22	2.51	1.96
Female	300	3.35	1.34		

From table 3, the mean rating of male youths was 3.14 with standard deviation of 1.22 while that of female was 3.35 and 1.34 respectively. The Z-score calculated was 2.51 while z-score table was 1.96. Since the calculated Z-score is greater than table z-score the null hypothesis is rejected and the

alternative uphold that there is a significant difference between male and female youths' response on their opinion in promoting peace through science education and this is in favour of female youths.

Discussion of the Results

In table I, it was observed that in order to arrest youthful unrest and promote peace in the society that chemistry education should be used in school curriculum in order to teach acceptable values and norms to the youths before they graduate from various higher institutions. This chemistry education will be done in the following ways through school curriculum by the use of appropriate teaching methods, such as cooperative learning, group assignment as well as, including societal values, skills acquisition, spirit of service, and respect for other peoples' view and citizenship concern for the environment in the school curriculum. In using chemistry education to enhance skill acquisition amongst youths, Disa (2008) was of the view that if the government should create jobs for our teeming youths who graduate from various institutions that crime would be curbed in the society.

Agbalajobi (2009) opined that women play a very important part in process of peace building as activists and advocates for peace. They stressed that women wage conflict non-violently by pursuing democracy and human rights, "transform relationships" and address the root cause of violence, thereby by preventing violence conflict.

The difference of 0.21 in favour of female could be explained that naturally that females are in a better position to start teaching peace values early enough to children because they are the wombs that bear children as a result they are closer to the youths than the classroom teachers. Therefore, they are in a better position to inculcate sound moral instruction into the younger generation.

From table 3, the calculated z-score is greater than the table z-score hence the difference between the mean ratings of male and female youths is significant and in favour of female youths.

Conclusion

In conclusion, the paper has attempted to proffer solution on how violence and crimes could be curbed in Nigerian society among youths through the use of science education. In order to achieve peace in our society, the root causes of youthful violence and crimes could be addressed through the use of science education by emphasizing science process skills in science education across disciplines using cooperation learning strategy, group assignment and so on.

Recommendations

From the findings of the study, the following recommendations were made: (i) that science process skills in science should be taught across disciplines in higher institutions in order to prepare youths for meaningful living in the society. This could be done by employing teachers who are knowledgeable in science concepts. (ii) Promotion of peace could be done when teachers engage students for group work/assignment using cooperative learning in skill acquisition.

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