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Effects of Collaborative Learning on Effective Communication Skills for Achieving Peace Culture among Science Students in Nigerian Schools

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Abstract:

The purpose of the study was to determine the effect of collaborative learning on developing effective communication skills for enhancing peace culture among science students in Nigerian schools.

Specifically, the study sought to determine the effect of collaborative learning on achievement of pro-social behaviours and communication skills for peace culture among science learners in Nigerian schools. A pretest, posttest, non-equivalent control group design was adopted. Eighty four (84) senior secondary two (SS 2) science students in 8 intact classes randomly selected from 4 secondary schools in Nsukka town of Enugu state of Nigeria constituted the sample. An attitude to peace education questionnaire developed by the researchers was used for data collection. It was validated by experts in Educational Measurement and Evaluation and one expert in language Education. The reliability of the questionnaire was determined using Cronbach Alpha statistic and it yielded an index of 0.78. Mean, standard deviation and t-test were used in data analysis. Results showed that collaborative learning method was significantly ($P < 0.05$) better than competitive method in achieving effective pro-social behaviours and communication skills for peaceful culture among science students. Also some barriers to achievement of effective communication skills for peaceful culture through collaborative learning identified by study included; use of emotional language (86%); interruption (62%); dominating in discussion (56%) and teasing (47%). It was recommended that peaceful culture should be promoted among the secondary school science students through appropriate communication skills taught in collaborative classrooms. Also, a programme to educate students on peaceful culture should be mounted in school curricula.

1. Introduction

In Nigeria, cases of youth restiveness in the forms of cultism, oil pipeline vandalism, kidnapping, bokoharamism among many other forms have caused disruptions in educational, religious, social and political calendars and have set fears on the citizenry. At present, the government has continued to make effort towards curbing youth restiveness in the country. Perhaps a consideration of promoting peaceful culture among students through appropriate and effective communication skills would help to change the trend. In particular, it would appear that learning strategies such as collaborative learning thrive well with many indigenous ways of knowing and solving social problems such as the youth restiveness.

Collaborative learning as an instructional methodology provides opportunities for students to develop skills in group interactions and in working with others that are needed in today's world. (Imel, 1989; Kerka, 1990). In a collaborative learning classroom, learners are expected to act as resources for each other within a group. According to Cohen and Latan in Jorgensen (2009), the fundamental premise of a grouped activity is that learners have to provide and ask for assistance, the right to ask for help, and each has the duty to assist when asked. This approval encourages learners to justify their arguments, explain their process or rationales for action and seek clarification for actions. Collaborative learning experiences tend to promote more positive attitude towards the instructional experience than the traditional competitive or individualistic methodologies. Shimazoe and Aldrick (2010) provide several benefits of collaborative learning approach for students among which are the learning of social skills, and civic values, promotion of personal growth and development of positive attitudes towards autonomous learning. The report tends to show that the decisions teachers make in structuring lessons can influence students' interactions with others, knowledge attitudes and perceptions towards issues.

While empirical evidence support the use of collaborative learning with a variety of subject areas, the extent to which the collaborative learning method can be extended to developing effective communication skills for achieving peace culture in schools seems unknown. Also, while academic discourse on peace education has increasingly reorganized the need for broader, more holistic approach to peace education, an essential component of such peace education programme should involve providing students with social and emotional skills to prevent conflict and reinforce their use of pro-social strategies in conflicts. As such, the conflict resolution education may help develop in students some skills as effective listening, perspective talking, emotional awareness and emotional control. Kadiri (2001) suggests that peace education is best understood in terms of the specific skills, attitudes, and knowledge imparted. The programme of peace education helps to develop communication skills of active listening and assertive speech, problem solving skills of brainstorming and orientation skills of cultural awareness and empathy.

Learning and practicing communication skills within the framework of peace education means establishing positive classroom environment where students work together. Educators do believe that a peaceful classroom is a possible avenue to develop positive attitudes, values and knowledge that enhance peaceful culture among students. In addition, teaching of positive communication skills helps student to learn the pro social behaviours and the language that are associated with them.

Oyebanji (2001) identified pro-social communicative competence in classroom as being aware of others needs, knowing what kinds of helps to offer, being aware of a limited or lacking resource, willingness to share or donate that resource and an understanding of the consequences of acts of sharing or donation. Birch (2010) also includes collaboration, tolerance, acting fairly and resolving conflicts creatively as topics for classroom instruction.

The common pro-social behaviours and communication skills that have been identified by peace educators for classroom instruction include; speaking for a purpose, listening attentively, and reflecting, promoting self esteem, dignity for self and respect for others, speaking with positive emotional expression, and understanding possible barriers to effective communication and ways to diffuse them. The speaking for a purpose skill requires that a speaker recognizes the perception of others as different from his and that what is said should serve a mutual purpose such as clarification of situations. Another useful stage in effective communication is listening to others in order to understand a message and reflecting a whole message back to the speaker indicates that the message was understood. Also, Oyebanji (2001) asserts that the use of acknowledging, labeling and affirming pro social behaviours e.g. generosity, being considerate and helpfulness in classroom interactions are indicators of effective communication skills. The other communicative skills in ensuring peace culture among students are speaking with positive emotional expression. This according to peace educators involve using alternative language that would clarify and improve the understanding of the listeners by being more sensitive in choosing what to say and how to say it.

Further, the understanding of possible barrier of effective communication and how to diffuse them was identified by some scholars. Such barriers include behaviours of interruption, dominating the discussion, criticizing, judging, teasing as well as use of emotional language. Students need to be aware of the communication problems for enhancing peace culture. They do not seem to know what is expected of them and neither what they can expect. It is necessary to find appropriate strategies for inculcating peace culture among the students towards curbing youth restiveness. Though pro social behaviours that enhance peace culture can be developed in the classroom through reading or watching movies with pro social messages, the effect of alternative strategy such as use of collaborative learning needs to be investigated as a good number of students may not be adapted to reading and watching movies. The purpose of this study was therefore to determine the effect of collaborative learning on effective communication skills for achieving peace culture among science students in Nigerian schools. The following research question provided the specific focus for the study;

- What is the effect of collaborative learning on achievement of pro social behaviour and communication skills for peace culture among science students in Nigerian schools?
- What are barriers to achievement of effective communication skills through collaborative learning?

2. Research Method

The design of the study was quasi experiment since intact classes were used. Specifically, the pretest posttest non equivalent control design was adopted. The population for the study consisted of science students in secondary schools (SS 2) in Nsukka town of Enugu State of Nigeria. The sample of the study was 84 students, consisting of 45 students in the collaborative learning class and 39 students in the traditional non collaborative learning classes.

Both groups were taught the pro-social behaviour and communication skills that are associated with these behaviours in a variety of science practical learning situations in the classroom. Teachers were also provided detailed instructions on conducting learning activities in both the collaborative and non collaborative groups. Both groups were taught the pro social behaviours and communication skills for achieving peace culture using the same contents. The students in the collaborative group were taught using collaborative technique while the competitive group was taught using individualized competitive approach. The same unit was taught to both groups over one week.

An instrument to measure the pro social behaviour and communication skills for achieving peace culture was developed by the researchers. The instrument which was validated by three experts in attitude measurement at university of Nigeria, Nsukka had a coefficient of internal constancy (Cronbach's Alpha) of 0.78. The instrument was administered to both groups before and at the end of the unit of instruction.

3. Result and Conclusion

The results and conclusions of the findings were based on the two research questions that guided the study as follows:

Groups	N	Mean X	SD	t value	df	p-value
Collaborative group	45	42.43	6.72			
Non Collaborative group	39	41.51	7.18	-0.580	82	0.560

Table 1: Pre-test mean score of collaborative and non collaborative groups' communication skills for peace culture

Groups	N	Mean X	tcal	p0.05
Collaborative group	45	56.19		
Non collaborative group	39	50.20	-2.73	0.031

Table 2: Posttest means scores of collaborative and non collaborative groups on pro-social behaviours and Communication skills for enhancing peace culture

As shown in Table 1, the results indicate that the pretest mean score for collaborative group was 42.43 with a standard deviation of 6.72 while that of the non collaborative group was 41.51 with a standard deviation of 7.18. The results also show that the difference between the collaborative and non collaborative mean scores on pro-social behaviour and communication skills for enhancing peace culture at $t(82) 0.560$ was not significant at the alpha level of 0.05. This means that the collaborative and non collaborative groups were at the same level of pro- social behaviour and communication skills at the start of study.

Table 2 shows that posttest mean scores of collaborative and non collaborative groups on pro-social behaviours and communication skills for collaborative group was 56.19 and that of the non collaborative group was 50.20. The result indicate that the difference between the mean scores on pro-social behaviours and communication skills for the experimental and control groups $t(82)= 0.031$ is significant at the alpha level of 0.05.

Based on the results of this study, the following conclusions are drawn.

- The collaborative learning approach is more effective than the non collaborative individualized competitive learning approach in enhancing the pro-social behaviours and communication skills for achieving peace culture among science students in Nigerian schools.
- Some barriers to achievement of effective communication skills through collaborative learning include: use of emotional language (86%), interruption (62%), dominating in discussion (56%), and teasing (47%) among others.

4. Implications and Recommendations

That collaborative learning was found to be more effective than non collaborative learning in achieving effective pro social behaviours and communication skills for enhancing peace culture among science students in Nigerian schools suggest greater efforts in using collaborative learning strategy for achieving pro social behaviours and communication skills for enhancing peace culture in Nigerian schools. Certainly, the ability to work with others within a group and to develop interpersonal skills may be justification for using collaborative learning strategy. Students that are taught school subjects by collaborative methods should develop both the pro social behaviour and communication skills required for enhancing peace culture within and outside classrooms.

Additional research should be conducted to increase the generalizability of the present findings on communication skills for enhancing peace culture among Nigerian students. Further study should also focus on comparison between different models of collaborative learning, as well as comparison with non collaborative learning approaches in order to find out if other collaborative learning models are equally effective in producing desired student outcomes with regard to enhancing of peace culture among students in Nigerian school

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