

# Effect of Concept Mapping Instructional Strategy on Junior Secondary School Student's Knowledge of Multiculturalism in the Global 21<sup>st</sup> Century Social Studies Classroom

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## Abstract

This ever-increasing diversity in today's classrooms is prompting teachers to incorporate a multicultural approach to lesson planning. The classroom in the 21st century is also more focused on a proactive learning environment rather than merely dispensing information. Hence, it is vital that teachers offer a rich and varied multicultural curriculum to accommodate the culturally diverse 21st century classroom. This article describes how concept mapping techniques were applied to evaluate the development of a solution-focused, public alternative school programme. Concept mapping appears to be a useful programme evaluation methodology for school workers to consider a valuable tool for examining complex problems and solutions within school organizations. *A 30 item achievement test was administered on 50 junior secondary school students purposively selected from two secondary schools in the south-west region of Nigeria. Data were analysed using t- test. Three null hypotheses were raised and tested at 0.05 level of significance. The findings of this study revealed that there is a significant difference between pre and post test scores of the students when exposed to concept mapping instructional strategy ( $t=10.75; df=98; p<0.05$ ). Therefore, this calls for improved approaches of teaching in culturally diverse 21<sup>st</sup> century Social Studies classroom.*

**Key words:** Concept mapping, Multiculturalism, Global, Century, Maps, teaching technique, students, Social Studies.

## Introduction

Migration and movement of populations have contributed to increased recognition on the part of governments worldwide of the need for better public policies for managing cultural diversity. Therefore, it has become necessary for Social Studies educators and researchers to focus their attention on how to address the global problem of managing cultural diversity. Additionally, the claim that Social Studies has not achieved its goals in Nigeria because of the problem of instructional ways chosen by the teachers of the subject which makes the concepts taught impracticable by students. The failure therefore encouraged social incompetency and the non accomplishment of citizenship education expected of Nigerian youths especially (Yusuf, 2009). Teachers' methods of teaching particularly those relating to the conventional methods have been found to be inadequate for a value-laden subject like Social Studies. This therefore calls for a change in pedagogy. Concept mapping which is an active learning and participatory method that would encourage critical thinking, enable decision making and learners taking responsibility for their learning has been advocated.

The importance of teaching strategies as means of inculcating knowledge to students cannot be overemphasized. To this end, the re-training of teachers in order to keep them current in the event of new strategies is seriously important. Against this background in Nigeria, the Director and Chief Executive Officer of the National Teachers' Institute wrote that the institute was mandated by the Act No. 7 of 1978 to organize programmes for upgrading and updating practicing teachers at all levels. According to Sharehu (2009), one important focus of the re-training workshop is in the area of innovative techniques of teaching the four core subjects (English, Mathematics, Basic Science and Technology and Social Studies). A very important objective of education in Nigeria is to inculcate in children permanent literary and numeracy and the ability to communicate efficiently. NTI (2009) explained that, to be able to pursue this noble objective, among others, Social Studies was included as one of the core subjects. The proper implementation of any curriculum depends on the quality of the teachers hence, the need to update the knowledge of teachers for effective teaching is paramount.

The 21st century Social Studies classroom is based upon a culture of inquiry and knowledge rather than information retention. Schools of the 21st century value the importance of collaborative learning which helps students prepare to work in a team-oriented environment. Concept mapping provides a holistic multimodal

means of sharing the relationship of concepts collaboratively on a single screen or page (Yearwood, 2005). This piece aims to provide an introduction for practitioners on the general approaches and techniques using concepts mapping in teaching and learning. Multimodality refers to the fact that maps, unlike an essay, do not just use words to convey meaning (Cardellini, 2004). Used as learning and teaching technique, concept mapping visually illustrates the relationships between concepts and ideas. Often represented in circles or boxes, concepts are linked by words and phrases that explain the connection between the ideas, helping students organize and structure their thoughts to further understand information and discover new relationships. Most concept maps represent a hierarchical structure, with the overall, broad concept first with connected sub-topics, more specific concepts. In the light of the above, this paper examined the importance of concept mapping as an effective teaching strategy for a global multicultural 21<sup>st</sup> century classroom.

Multiculturalism is considered a multifaceted term that incorporates a plethora of social constructs such as race, religious affiliation, sexuality, gender, ethnicity, linguistic diversity and disability (Banks, 2009). Since the 1970s, educators have raised awareness about this ideology as a theory and approach for endorsing diversity, enabling minorities and underprivileged groups, and dealing with problems associated with inequality (Ojebiyi and Salako, 2011). Multiculturalism is an issue that has raised much debate in the academic arena, with some educators and education policy makers advocating that multiculturalism be integrated into pedagogical practices, while others viewed multiculturalism as divisive and unnecessary (Bennett, 2003). Additionally, there is a concern that discussions about multiculturalism were often fueled by political agendas which often distract from the educational focus. Nevertheless, multiculturalism has become a prominent topic in the educational arena in America and the world over. Hence, educators should endeavor to address issues of disparity and bigotry in the classroom by having a clear definition of multicultural education

Knowledge of multicultural education in Social Studies is an invaluable cognitive experience of analyzing various cultures in today's interdependent world (Faggella-Luby and Deshler, 2008). It increases capacity for intellectual open-mindedness and develop a global perspective about issues to effectively navigate a global landscape by encouraging an understanding of cultural differences (Davis, 2009; Salako, 2010). Equity in pedagogy exists when teachers modify their teaching in ways that will facilitate the academic achievement of students from diverse racial, cultural and social-class groups (Banks, 2009). The development of skills required for all these call for the introduction of appropriate approaches of teaching Social Studies. For this reason, there is a need to provide pedagogical activities such that would accommodate the needs of an increasingly diverse learner pool.

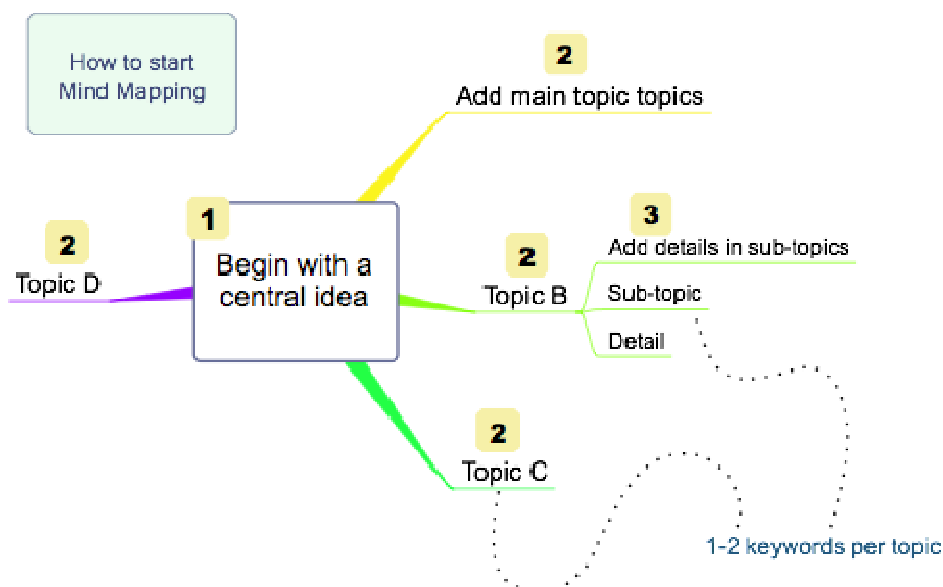
### **Conventional Lecture Method of Concept mapping**

A concept map is a visual organizer that can enrich students' understanding of a new concept (Birbili, 2007). Using a graphic organizer, students think about the concept in several ways. Most concept map organizers engage students in answering questions such as, "What is it? What is it like? What are some examples?" Concept maps deepen understanding and comprehension. Essentially, concept mapping is a structured process focused on a topic or construct of interest involving input from one or more participants that produces an interpretable pictorial view of their ideas and concepts and how these are interrelated (Yusuf, 2009). Concept mapping helps people to think more effectively as a group without losing their individuality. It helps groups to manage the complexity of their ideas without trivializing them or losing detail (NTI, 2009).

Concept mapping is a powerful but simple way of using diagrams to show information in the same way one thinks. Concept mapping makes it easy to understand, remember, and communicate complex information. Sometimes our brains feel as if they are scrambled because of information overload, overwhelm, or ineffective use of the brain. This leads to:

- inability to solve problems effectively,
- lack of creative thought,
- lack of focus,
- difficulty giving great presentations,
- problems organizing one's thoughts,
- poor communication,
- missing out tasks when planning projects,
- forgetting important information.

### A Conceptual Framework of Concept Mapping



Source: 2012, Nova Mind Software Pty Ltd.

The teacher starts with a central topic that he is going to examine, and add topics radiating from the center, and then sub-topics as required to represent ideas.

Concept maps are created in a natural way by using words and connections that make sense. It is best to stick to one or two keywords on the topics and use the topics to show the connections between the ideas. It helps students to make meaningful connections between the main idea and other information. They are easy to construct and can be used within any content area.

### Conventional Lecture Method

The most frequently used method of teaching is reported to be the conventional lecture method which has become the model for most schools (Ogunleye, 2002). Lecture is a teaching method where an instructor is the central focus of information transfer. Typically, an instructor would stand before a class and presents information to the students to learn. Sometimes, they would write on a board or use an overhead projector to provide visuals for students. Students are expected to take notes while listening to the lecture. One of its advantages is that it is possible to educate large number of people at once, thereby lowering costs. The lecture method is still used in schools today because of the unprecedented expansion in school enrolment, shortage of infrastructure coupled with shortage of funds (Ogunsaju, 2001). However, the method is not the most effective according to Lai (2002) because it focuses entirely on intellectual development and ignores experiential learning. It teaches students how to succeed on standardized tests and relies mostly on the use of the intellect. This style of learning is intended to allow students gain an individual meaning to the subject matter (Chang, 2000; Ogunsaju, 2001). Obviously, this teaching method has failed to bring about the desired outcome of producing thinking students. Therefore, there is the need for teachers to have a change of style in order to be able to meet the demands of multicultural learners. In the light of this, an alternative teaching strategy is herein discussed.

### Concept Mapping Literature Review

#### Literature review

A survey of literature on teaching methods in Social Studies education has clearly shown that traditional teacher-centred approach to teaching which informs the use of methods like lecture and recitation have been relegated to the background. Ajiboye (2003) emphasized the need to use learner-dominated methods in teaching concepts in this area. Some of the commonly identified methods includes: the discovery method, the value clarification method, the discussion method, the simulation and game method, and the dramatization method (NTI, 2006). The National Teachers' Institute (NTI) has therefore recommended a new approach for the teaching and learning of Social Studies in schools. The new approach is pupil or learner-centered. The learner is not treated as an empty vessel. Learner is credited with knowledge, skills and attitudes from the day he or she is born which requires development, through guidance, encouragement and motivation (Ogunleye, 2002). In this setting, the teacher's role has shifted from that of imparting knowledge to a facilitator. This is the emphasis usually laid

by the National Teachers' Institute during its re-training programmes for school teachers.

The NTI (2009) recommended the following teaching methods for appropriate accomplishment of Social Studies goals in the classroom: Inquiry method, guided discovery, concept mapping, game and simulation under the inquiry-related strategies. According to Adesina & Ogbondah (2005), Social Studies teachers are blamed for not using inquiry-related strategies. This attitude is said to contribute to the ineffective teaching and learning of the subject.

Similarly, numerous studies have been carried out on concept mapping and how instructional strategy could be used to change the attitudes and beliefs towards diversity in the classrooms because according to Banks (2009), in virtually every school, one is likely to find students of different ethnic groups and from a variety of racial composition. This variety is increasing every day.

Concept maps have gained increasing support for use in distance learning courses because of their effectiveness in visually depicting the relationship between complex concepts (Cardellini 2004). They have numerous educational applications, and are particularly useful for facilitating critical thinking and problem solving among students in asynchronous learning environments (Freeman and Jessup 2004; Chang and Lee 2003; Prester and Moller 2001; Milam et. al 2000). At the same time, their impact on learning outcomes in diversity courses offered online has not been emphasized. From the numerous literatures cited above and to the best knowledge of the researchers, similar studies carried out in Nigeria were conducted outside Ogun State with reference to senior secondary schools. Hence, there is the need to examine effects of concept mapping strategies on junior secondary school students' knowledge to multiculturalism in the Global 21<sup>st</sup> century Social Studies Classroom in Social Studies with special reference to Ogun State.

### **Statement of the Problem**

One of the key challenges facing Nigeria as a nation is the multi-ethnic and multi-religious composition of the Federation. With over 400 ethnic groups distributed among Christianity, Islam and traditional religion, ethno-religious conflicts in Nigeria have resulted in loss of several lives and unquantifiable psychological and material damages. Prejudice, discrimination and lack of equal opportunity to learn are the prevailing situations in the society. However, research has revealed that the school could be used as a tool to promote the concept of unity in diversity. In order to achieve the objectives of Social Studies, concept mapping instructional strategy has been identified as useful since the conventional lecture method which is currently the predominant teaching approach in Nigerian schools is inappropriate. This study, therefore, determined effects of concept mapping instructional Strategy on junior secondary school students' knowledge of multiculturalism in the global 21<sup>st</sup> century Social Studies classroom.

### **Design**

The study adopted a pretest, post-test quasi and control group experimental design.

### **Procedure**

The study was carried out among junior secondary school students of two secondary schools in Ogun State, south-west Nigeria. Using the purposive sampling technique, a population of (50) students was selected for the study. Twenty five (25) students were selected from each of the two schools which were randomly selected.

### **Instrumentation**

The study employed t-test which was used to test the hypotheses at 0.05 level of significance.

#### **Achievement test on social studies (ATSS)**

The instrument used is the achievement test on Social Studies. The preparation of copies of the performance test was guided by the 9-Year basic education curriculum (Social Studies) for Junior Secondary 1-3 by Nigerian Educational and Research Development Council (NERDC) and Universal Basic Education Commission (UBEC).  
Reliability of the instrument

For the achievement test, the reliability coefficient using cronbach alpha is  $\alpha = 0.77$

#### **Hypotheses**

The following null hypotheses were generated and tested at 0.05 level of significance:

HO1- There is no significant difference between male and female students in Social Studies when taught using concept mapping strategy

HO2- There is no significant difference between Christian and Muslim students in Social Studies when taught using concept mapping strategy

HO3- There is no significant difference between pre-test and post-test scores of the students in Social Studies when taught using concept mapping strategy

### Findings

**H01:** There is no significant difference between male and female students in Social Studies when taught using concept mapping strategy

**Table 1:** Summary of the t-test analysis showing difference between male and female in post test scores

#### POST-TEST SCORES BY GENDER

Variable	N	Mean	Std. D	t	df	Sig.	Remark
Male Students	25	15.24	2.15				
Female Students	25	14.72	1.99				
				0.888	48	0.379	Not significant

Table 1 shows that there is no significant difference between male and female post-test scores after been exposed to concept mapping instructional strategy ( $t = 0.89$ ;  $df=48$ ;  $p>0.05$ ). Therefore, the first hypothesis is not rejected.

**H02:** There is no significant difference between Christian and Muslim students in Social Studies using concept mapping strategy

**Table 2:** Summary of t-test analysis showing difference between Christian and Muslim students in post test scores

#### POST-TEST SCORES BY RELIGION

Variable	N	Mean	Std. D	T	df	Sig.	Remark
Christian Students	31	15.19	2.39				
Muslim Students	19	14.63	1.38				
				0.933	48	0.581	Not significant

Table 2 shows that there is no significant difference between Christian and Muslim students in their scores after being exposed to concept mapping instructional strategy ( $t=0.93$ ;  $df=48$ ;  $p>0.05$ ). Therefore, the second hypothesis is not rejected.

**H03:** There is a significant difference between pre-score and post-score of the students in Social Studies when taught using concept mapping strategy

**Table 3** summary of t-test analysis showing difference between pre and post test scores of students' academic

Variable	N	Mean	Std. D	t	Df	Sig.	Remark
Students' pre-test scores	50	9.80	2.71				
Students' post-test scores	50	14.98	2.07				
				-10.749	98	0.000	significant

Table 3 shows that there is a significant difference between pre and post scores of the students when exposed to concept mapping instructional strategy ( $t= 10.75$ ;  $df=98$ ;  $p < 0.05$ ). Therefore, the third hypothesis is rejected.

#### Discussion of the table

It was found in this study that there is no significant difference between male and female scores after being exposed to concept mapping strategy. This is to the effect that both male and female students performed very well irrespective of their gender. This is premised upon the nature of interaction among the students in the learning situation. For instance, students worked together in small heterogeneous groups, sharing ideas, experiences and were more or less in charge of their activities as teachers only acted as facilitators. Within each group, students from diverse cultural, ethnic and religious backgrounds were provided equal opportunities and interacted to achieve common goals.

There was no significant difference between Christian and Muslim students in the post test scores. Based on the findings of the study, it could be concluded that the use of concept mapping instructional strategy has the potentials of helping students to foster cooperation, mutual trust, understanding, more effective communication sharing other peoples' world views and ultimately lead to improved knowledge of students in multicultural education irrespective of their religious inclinations.

There was significant difference in academic achievements of students' pre test and post test scores in Social Studies when taught using concept mapping instructional strategy. This is as a result of the fact that the students were encouraged to make critical decisions concerning themselves as well as others in the group. Concept mapping is indeed experiential and helped to reinforce students' learning while experiencing realistic situations, applying practical knowledge and connecting with the community. In fact, the relevance of concept mapping in improving student performance in multicultural Social Studies classroom is not far-fetched because it provides room for proper interaction among students. The multicultural Social Studies classroom is about a mixture of people from diverse cultural, background. Cooperation is therefore considered basic towards understanding of the significance of concept mapping instructional strategy which provided subtle but potent forum for achieving this.



## Conclusion

In this paper, efforts have been made to present the theoretical framework on *concept maps*. While at first glance, concept maps may appear to be just another graphic representation of information, understanding the foundations for this tool and its proper use will lead the user to see that this is truly a profound and powerful tool. It may at first look like a simple arrangement of words into a hierarchy, but when care is taken in organizing the concepts represented by the words, and the propositions or ideas are formed with well-chosen linking words, one begins to see that a good concept map is at once simple, but also elegantly complex with profound meanings. Concept mapping has been shown to help learners learn, researchers create new knowledge, administrators to better structure and manage organizations, writers to write, and evaluators assess learning. As with any tool, it can also be misused, hence adequate care and preparation is required for proper handling.

Based on the findings of the study, it could be concluded that the use of concept mapping instructional strategy has the potentials of helping to foster cooperation, mutual trust, understanding and more effective communication sharing other peoples' world views and ultimately lead to improved knowledge of students in multicultural classroom. Also, in employing the strategy in the Social Studies classroom, students' religious background and gender are not the focus. Hence, the future of the Nigerian state will become surer and among the citizens, peaceful co-existence will tend to hold sway in different parts of the country if multiculturalism is given a pride of place through the concept mapping strategy in Nigerian Secondary Schools.

## Recommendations

It is hereby recommended that:

- Teachers should adopt the concept mapping instructional strategy in teaching in the multicultural Social studies classroom and indeed across other subject areas in order to better prepare the students for future communal living, understanding of other peoples' culture and development of abilities to live peacefully with others especially outsider their own cultural origins.
- Students should be assisted to appreciate the need for unity, peace, love and harmony; also the need to contribute to its entrenchment in the society. This would go a long way to make them more sociable and be more tolerant of other people's ways of life.
- Curriculum developers in Social Studies should incorporate more concept mapping activities into the social studies curriculum and make them to be of equal proportion in terms of elements of cultured identity.
- Also, they should popularize concept mapping instructional strategies by recommending its use to teachers in the curriculum.
- Teachers' Associations such as Social Studies Association of Nigeria (SOSAN) should organize seminars and workshop for teachers in order to make them familiar and interested in the use of the concept mapping instructional strategy in the teaching of social studies.

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