

African Research Review

An International Multi-Disciplinary Journal, Ethiopia

Vol. 3 (4), July, 2009

ISSN 1994-9057 (Print)

ISSN 2070-0083 (Online)

Classroom Climate and Students' Academic Achievement in Social Studies in Cross River, Nigeria (Pp. 413-428)

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Abstract

This research project examined “Classroom climate and its relationship with students’ academic achievement in Social Studies”. Ex post facto design was adopted. The population of the study comprised 14,297 JSS III students and the sample was 1,200 JSS III students selected through stratified random technique from the three Educational Zones in State Secondary Education Board, Cross River State. The instrument used was a structured six-point Likert scale questionnaire, the reliability estimate of which ranged from 0.7 to 0.8 and achievement test adapted from Junior Secondary School Certificate Examination, Ministry of Education, Cross River State (2004) were used to collect information used in the study. The data collected were analysed using Pearson Product Moment Correlation and Multiple Regression. The hypothesis was tested at .05 level of significance and 1198

and F (9,1190) degree of freedom. Based on the findings, it was concluded that all the independent variables mentioned in this study jointly contribute to the variance in students' academic achievement in Social Studies. It was recommended that Social Studies teachers should be trained to improve their skills on an encouraging classroom climate for students' confidence and initiative through seminars, conferences and in-service programmes.

Introduction and Literature Review

The notion of classroom climate draws explicit attention to the emotional tone and atmosphere of the lesson, and is made up of teachers' and students' perceptions. Teacher-student interaction during a lesson involves a consistent flow of information concerning their perceptions, expectations, attitudes and feelings about each other and the learning activities at hand (Gammage 1982; Rogers, 1982, Burns, 1982).

Classroom climate consists of so many sub-variables that affect students' achievement in schools. Some of such variables is physical appearance or layout of the classroom, teachers' teaching behaviours and instructional materials utilization which the researchers considered in this study. According to Strivens (1985), an effective classroom is attributable to its physical appearance or layout because it produces a task-oriented atmosphere and at the same time, it encourages social and emotional needs of the students.

The concept of climate as it applies to school (classroom) has been viewed from many perspectives, and defined in a number of ways by different writers. Hodgetts and Altman (1979:344) define classroom climate as "a set of properties of the work environment perceived by individuals who work there and which serve as a major force in influencing their job behaviour". According to them, when an organization (school) climate is examined, it is akin to studying an iceberg. Everything we see is important but there is a great deal under the surface, not readily visible, which also merits close attention (Hodgetts and Altman, 1979). Forehead and Gilmar (1964) in their opinion refer to classroom climate as the set of characteristics that describes and influences the behaviour of people in the school. Classroom climate is seen by Chamberline (1971) as a subtle spirit that exists in a school, both in the minds of the teachers and students and in every act, which may never be exactly described or analyzed, but which an experienced observer recognizes when he enters a school.

Sergiovanni and Starrat, 1979) saw the meaning of climate as the 'feel', which influences the behaviour of teachers and students in the school. Gibson, Ivancevich and Donnely (1976) concluded that climate is a set of properties of the work environment, which is perceived directly or indirectly by the people who work in the environment and is assumed to be a major force in influencing employees' job behaviour. Tagiuri and Litwin (1968) viewed classroom climate as the milieu, atmosphere, culture, feel, tone or the internal quality of an organization, especially as experienced by its members and noticed by visitors to the school.

In another consideration, Hoy and Miskel (1987) believes that classroom climate consists of a set of internal characteristics that distinguish one school from another and influences the behaviour of the people in it. Litwin and Stringer (1968:5) defined climate "as the perceived subjective effects of a formal system ... attitudes, beliefs, values and motivation of people". Silver (1983) also observed that the tone, ambience or atmosphere of an organization – the sense that a place has a quality uniquely its own – has come to be called the climate of the organization.

According to Peretomode (1999) different techniques have been developed for assessing organizational climate in schools. Three of such instruments or frameworks are those by Halpin and Croft (1967), Miles (1965) and Stern and Steinhof (1965). Halpin and Croft's descriptive climate framework is probably the most popular and most widely used technique of the methods of measuring the organizational climate in schools. Halpin and Croft (1963) conceived of interpersonal interaction of the social climate of schools as a blend of the principal's leadership and the teachers' interaction. They developed an instrument referred to as the Organizational Climate Descriptive Questionnaire (OCDQ). The instrument according to Halpin and Croft (1967) comprised eight subsets namely: disengagement, hindrance, spirit, intimacy, aloofness, production, thrust and consideration.

School climate as organizational health was proposed by Miles (1965) as an approach to understanding the prevailing flavour, attitude, sentiment and orientation of a given school. Miles (1965) in his approach developed and identified ten dimensions, which, he believes constitute the healthy school and its environment to include goal focus, communication adequacy, optimal power equalization, resource utilization, cohesiveness, morale, innovativeness, autonomy, adaptation and problem-solving adequacy. Stern

(1970, 1971) 'need-press framework (the theory of climate as a social press) is an extension of earlier formulations in the field of psychology by psychologists such as Murray (1938) and Lewin (1935).

Lewin (1935) developed a theory of human action. This considered human behaviour as a dynamic interplay of two groups of forces those within the individual (such as drivers) and those from the environment (such as social norms). Lewin formulated that behaviour (B) is a function (f) of the interaction between personality (P) and the environment (E). This could be expressed as: $B = f(P \times E)$

According to Murray's (1938) postulation, behaviour in an organization is a function of the dynamic interplay between the psychological needs and the analogue dimensions of environmental press. Anderson (1971) studied effect of classroom environment on students' academic achievement. The sample comprised 500 sixth grade students randomly selected from four school districts in Cambridge. The researcher developed a learning environment inventory that was administered to teachers and students alike, to determine teacher behaviour in the class most preferred by students and the extent that such behaviour affects their perception of Home Economics. In this scale, ten aspects of classroom environment were considered including an aspect he identified as 'demonstrate'. This deals with the degree the teacher guides all students to participate in decision making in class. The finding showed that teachers who allowed students to be involved in selection of learning and classroom activities encouraged co-operational and fostered perception and attitude towards Home Economics. Again he found out that students from democratic classroom environment significantly performed academically better than those from autocratic classroom environment. He concluded that classroom environment significantly influences students' academic achievement.

Nickleson (1980) similarly sampled two groups of students, one group situated in an authoritarian learning environment in the quest to determine the effect of teaching style on academic achievement. He found that students in the authoritarian learning environment did not develop as much awareness in the process of obtaining knowledge as the group in the democratic learning environment. He also found that those in authoritarian environment significantly performed academically lower than those in democratic environment, as measured by teacher achievement test. He concluded that

teachers should create democratic more than authoritarian learning environment so as to enable students develop the process, skill and content of what they are taught.

According to Strivens (1985), the most effective classrooms appear to be those in which the atmosphere is 'task-oriented' but where at the same time the social and emotional needs of the students are met by establishing mutual respect and good rapport.

According to DuBey (1980), the materials teachers produce need to stimulate uncertainty, raise doubts, present conflicts which are aimed at the children in their level of development and satisfy the three psychological conditions of attentiveness, receptiveness and appropriateness. Calderhead (1984) observed that teachers planning take place against a background of concerns and constraints, which influence the selection of learning activities.

The type of classroom climate in which the learning has taken place affects students' academic achievement in Social Studies. Hahn Meitner Institute (1982) stated that classroom climate is concerned with how the teachers and students feel about each other and the learning activities in hand. This includes the behaviour and most notably, the use of language by which both the teachers and the students can communicate a rich collection of messages to each other.

According to Isangedighi (2003) school climate includes areas of discipline, administration, student-student relationship, student-teacher relationship and academic dimensions. Gammage (1982) and Rogers (1982) identified aspects of classroom climate to include the physical appearance and layout of the classroom, the hidden curriculum, communication, instructional materials, mutual respect and rapport, standard of work expected by the teacher among others. Cooper (2002) mentioned that rules and routines serve a variety of functions in the formal social setting of the classroom because the teachers' job in the classroom is difficult. Cooper (2002) further highlighted that most communication in classrooms flow from teacher to students. Less frequently, the direction of communication is from one or more students to the teacher.

Daft (1988) explains that classroom climate requires some positive changes to facilitate learning and achievement. Miller (1987) on the other hand

opined that an effective teacher's task is to analyze and nurture a climate that is capable of receptive to innovation and creativity. Analyzing the students'-teachers' experiences or activities in the classroom; chamberlain (1999) said that logic would suggest that students who struggle most in the classroom would ask most for help, but rather they are the most reluctant. Chamberlain (1999) stressed that through a survey of more than 500 students and 25 teachers in 63 six-grade Mathematics classrooms, spread through 10 Michigan middle schools, Ryan tried to establish connections between students' achievement levels, perceptions of their abilities and the role teachers saw themselves in the classroom learning environment. According to Chamberlain (1999), what Ryan discovered was that those teachers who were concerned with students' social and emotional needs were more successful in closing the gap in help seeking between higher-and lower-achievers.

In a classroom climate that is open and democratic, Ehman (1980) noted, students are treated fairly and are free to express their opinions during discussion. Leming (1985) believed that a conducive classroom climate encourages creative thinking by both teachers and students. Students cannot think well in a harsh, threatening situation or even in a subtly intimidating environment where group pressure makes independent thinking unlikely. A classroom climate is a question of perception by members and it is a set of unique and fairly enduring characteristics of a school (Silver, 1983). Also there is evidence that some climates are likely to yield better results for specific tasks than others.

In another vein, Miles (1965) identified some dimension, which he believed constitute a healthy school to include goal focus, communication adequacy, innovativeness, resource utilization, teacher's teaching behaviour and morale among others. In their contributions on effective classroom climate, Denga and Ali (1983) asserted that 'test' should be administered under a standardized procedure where there is timing, materials, lighting, ventilation, seating and working place should be adequately provided.

According to Akintola (1980), to achievement the objectives of Social Studies, it could be taught, learnt and lived, only in an atmosphere where students are able to: gain self confidence and initiative based on an understanding of one's own accomplishments, potentialities and one's own worth; develop their power of imagination and resourcefulness. Still,

commenting on the classroom climate and achievement Ogundele (1978) advised that the teacher should be able to maintain class discipline. There should not be unnecessary noise. Halpin and Croft (1967) identified six basic school climates as open climate, closed climate, autonomous climate, and controlled climate, familiar and paternal climates. Commenting on managing the class climate, Cooper (2002) pointed out that teachers have the task of making their first day in the class very interesting by starting class on time, introducing himself and the students to each other.

Classroom climate consists of so many sub-variables that affect students' achievement in schools. Some of such variables are physical appearance or layout of the classroom, teachers' teaching behaviour and instructional materials utilization which the researchers considered in this study.

According to Cohen and Manion (1981), the use of wall display in the classroom is also important and affects learning. In Social Studies classroom, for example, posters can create the atmosphere of a different society, culture or a different country. As stipulated in the National Policy on Education (FRN, 2004), Section 1 (7)d, the National Education goals include the acquisition of appropriate skills and the development of mental, physical and social abilities and competencies as equipment for the individual to live in and contribute to the development of his society.

This study was informed by the complaints made by students, parents, the government and the public about the comparative poor academic performance of students in Social Studies in Cross River State, Nigeria (see table 1) probably caused by the unfriendly classroom climate under which the teaching-learning process takes place. As seen in table 1 examination results and 40 percents of candidates that sat for Social Studies examination were successful (Cross River state Summary of Results 1998 – 2000).

Rutter (1979) and Striven (1985) opined that without effective teaching skills and classroom climate to provide a continual support and encouragement, there will be failure and the students' self-esteem regarding learning may be undermined. This could be traced to the feedback channel in the system theory which guided this study and from which the hypothesis formulated was drawn. This study therefore attempted to answer the question, "Has classroom climate any significant relationship with students' academic achievement in Social Studies?"

Theoretical Framework

It is expected that one should have an insight into the background of a theory that supports such a research study and from where a problem is identified and hypothesis or hypotheses formulated. The researchers examined the System theory since the study dealt with relationships and interactions between and among variables in a social system which, in this context is the 'school'. Bertalanffy (1968) is generally considered as the father of the general system theory whose idea was proposed in 1947.

According to Katz and Kahn (1978), the theory offers a way of interpreting organization as system. Peretomode (1999) and Inyang (2002) summarily saw a system as a set of interrelated parts that operate as a whole to achieve common goals. Hall and Feger (1968) and Choforas (1965) reconciled their meanings of system to mean a group of interdependent elements acting together to accomplish a predetermined purpose.

A system approach to educational institutions attempts to view the school as a unified, purposeful organization or as a unified, purposeful organization or as a system composed of interrelated parts. Educational institutions are systems and sub-systems in which the components among others include people. Each individual's behaviour within the system is characterized shaped by his psychological uniqueness and sociological attributes (Peretomode, 1999). According to Katz and Kahn (1978), a system is characterized as 'open' or 'close'. All organizations, including the school, are open systems because their survivals depend on interactions with and inputs from the external environment. These inputs include raw materials, human resources and capital that may transform them into outputs, in this case 'achievement'.

A social system can be defined as plurality of individual actors interacting with each other in a situation, which has at least a physical or environmental aspect (Parsons, 1951). The basic concept of social system theory was derived by Parson (1951) and its basic application to school administration was delineated by Gerzels and Guba (1957). A social system could be identified in the following characteristics: a group of people; these people are in purposive interactions; these interactions are interdependent; the pattern of interdependence is formed into institutions; and these institutions have identifiable geographical locations. This means that social system consists of inputs, processing unit, outputs, feedbacks and environment.

Although this theory has some setbacks as opined by Silver (1983), and Lipman and Hoeh (1974), its implication for this study is still very important because it deals with the efficiency and effectiveness of input and process and these are the areas in which this research is focused. The systems theory is very relevant to this study because it deals with the relationship and interactions between and among inputs to be transformed into outputs. For teaching to be effective, all the variables involved must interact either jointly or individually for achievement to actualize. It is through the feedback medium that the environment (parents, teachers, students) complains about the output (poor academic achievement in Social Studies) that even formed the basis for this study. The study sought to examine the relationships between the sub-units in classroom climate (physical appearance/layout of the classroom, teachers' teaching behaviour, teachers' effectiveness in instructional materials utilization) and students' achievement in a given subject (Social Studies).

Given the system theory, it sounds logical to expect variations in inputs to be reflected in variations in output. Specifically, do input variables such as physical appearance/layout of the classroom, teachers' teaching behaviour and effectiveness in instructional materials utilization relate to system output such as achievement of students in Social Studies? If for example, teachers are found to score high in utilization of instructional materials, will this also result (either jointly or individually) in high score in students' achievement?

Design and Methodology

Ex post facto design was adopted by the researchers since they had no direct control of the independent variables as their manifestations had already occurred. The study was carried out in their three Educational Zones (Calabar, Ikom and Ogoja) of Cross River State, Nigeria. The population was made up of 14,297 JSS III students in 228 schools under the State Secondary Education Board (SSEB). The sample drawn for the conduct of this study consisted of 24 out of 228 secondary schools through stratified and random sampling technique. The criteria for selection were based on the three Educational zones and gender as shown in table 2.

The instruments used for data collected consisted of a set of survey questionnaire which reliability values ranged between 0.7 and 0.8 and achievement test-scores adapted from Junior Secondary School Certificate Examination (JSSCE), Ministry of Education in Cross River State (2004),

which indices for validation included knowledge, memory, comprehension and application.

Data Analysis

The data collected was analysed using the Computer Soft Ware Statistical Package (CSSP) for Social Science Release 2000. The hypothesis was tested at 0.5 level of significance and 1198 degree of freedom.

Null hypothesis: *Physical layout of classroom, teachers' teaching behaviour and effectiveness in instructional materials utilization do not significantly contribute jointly to the variance in students' academic achievement in Social Studies.*

This hypothesis was tested with Multiple Regression statistics since there were many independent variables and a single dependent variable and the data for all the variables are interval data. The Pearson Product Moment intercorrelation of the dependent and independent variables are shown in table 3.

The result in table 3 indicates that classroom physical layout and teaching behavior are related while the physical layout of the classroom is significantly related only to students' academic achievement. Finally, teachers' teaching behaviour is significantly and positively related to teachers' materials utilization effectiveness, which is in turn, significantly and positively related to students' academic achievement. The results of the regression analysis are shown in table 4.

The result of the multiple regression analysis indicates the calculated F-value, which is 5.945, significant at .05 significance level and (2.1190) degrees of freedom. This implies that at least one of the independent variables contributes significantly to variance in the academic achievement of students in Social Studies. It also means that the calculated multiple correlation coefficient r , which is .207 is statistically significant.

The results also indicate that about 4.3% (i.e. $R^2 \times 100\%$) of the variance in students' academic achievement in Social Studies can be jointly accounted for by all the independent variables taken together.

Discussion of Findings

Most of the literature reviewed seems to have agreed with the findings of this study. The classroom climate in which a particular lesson takes place is also found out in this study as being so crucial if students' academic achievement is to be actualized. Cooper (2002) pointed out that a good classroom climate provides for a productive rather than disruptive conversion among students, thus, classroom and lessons should be structured in particular ways. In the same vein, Ryan as cited by Charmberline (1999) discovered that in the classroom where students' perceived focus was on understanding, mastery and self-improvement, rather than on competition and proving one's ability, students were less likely to avoid seeking help in their work when they needed it. This result of the Regression statistics of the variables is in line with Ehman (1980) who highlighted that classroom should be free, fair, traditional, innovative and democratic so that students perceive their opinions to be solicited, accepted and respected. This could only be possible when all the sub-variables of the classroom climate are interrelated.

From this result physical layout of the classroom is the only variable that relates to students' academic achievement.

Conclusion

Based on the findings reached, it was concluded that poor academic performance of students in Social Studies is related to unpleasant classroom climate. Thus, physical layout of the classroom, teachers' teaching behaviour and effectiveness are indispensable towards improving academic achievement in Social Studies. The independent variables in this study are interrelated and at least one of them contributes significantly to variance in the academic achievement in Social Studies.

Recommendations

Based on the findings and conclusions reached, the following recommendations were made:

1. That enough instructional materials should be provided and effectively utilized by both teachers and students during Social Studies instruction as this will help to improve the academic achievement of the students.
2. The physical layout of the classroom should be positively encouraged as this arouses the students' interest and creativity towards learning.

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Table 1: JSS 3 Results for Social Studies and Christian Religious Education for the period 1998 to 2000

Year	Subject	Total No. of Schools	Total Enrolment	No. of Percentage		No. in Percentage	
1998	Social Studies	12	2197	1098	49.97	1099	50.02
	Christian Religious Education	12	2197	1637	74.5	560	25.5
1999	Social Studies	12	1974	849	43.00	1125	57.0
	Christian Religious Education	12	1974	1916	97.1	58	2.9
2000	Social Studies	12	1897	752	40.02	1127	59.98
	Christian Religious Education	12	1897	1865	99.3	14	0.7

Source: Cross River State Ministry of Education Examination and Certificate Unit 1998, 1999 and 2000 Master List Result Summary

Table 2: Distribution of Sample by Educational Zone and Gender

Gender	Calabar	Ikom	Ogoja	Total	Percentage
Male	265	100	196	561	47
Female	289	177	173	639	53
Total	554	277	369	1200	100

Table 3

Intercorrelation of the dependent and independent variables

Variables	1	2	3	4
Classroom layout	1.000	.040	.035	.066*
Teaching behaviour		1.000	.082*	.002
Materials utilization			1.000	.147*
Academic achievement				1.000

* P < .05

Table 4: Regression Statistics of the Independent Variables

Variation	Sum of squares	df	Mean squares	F	R	R ²
	4197.197	9	466.355	5.945*	.207*	.043
	93350.296	1190	78.446			
	9754.493	1199				
	Unstandardized Coefficient		Standardized Coefficient			
	b	Std Error	β		t	
	67.907	5.375			12.634*	
Layout	-118	.063	-.054		-1.864	
Behaviour	.010	.053	.006		.198	
Utilization	.391	.071	.158		5.523*	

$F(2,1190) = 11.88$