

**FAMILY CLIMATE AND COGNITIVE LEARNING SKILLS
AS CORRELATES OF STUDENTS' ACADEMIC
ACHIEVEMENT IN SOCIAL STUDIES:
IMPLICATIONS FOR MANAGING SECONDARY
SCHOOLS IN EBONYI STATE**

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Abstract

The purpose of this study was to determine how family climate and cognitive learning skills correlate with students' academic achievement. It was guided by four research questions and two null hypotheses. The research was a correlational study and was carried out in Ebonyi State. The population for the study comprised all the 25,298 SSI students in three education zones of Ebonyi State. The sample for this study comprised 395 respondents made up of 194 and 201 male and female SS I students respectively. A researcher-developed rating scale titled "Family climate and cognitive learning skills scale (FCLSS) and social studies achievement test (SSAT) were the instruments for data collection. The face validity of the two instruments was determined. For the testing of reliability of FCLSS, the instrument was administered to 40 SSII secondary school students in Enugu State. The correlation co-efficients of the sets of scores for the items in each section were obtained using Cronbach Alpha. The reliability indices for the two sections include 0.86 and 0.82 respectively. Similarly, the reliability of SSAT was determined using test-re-test method. A reliability index of 0.85 was obtained for SSAT. The researchers administered the instrument using direct delivery technique with the help of three research assistants, one each from the three Education Zones in the State. Answers to research questions were sought using means and Spearman's rho correlation coefficient; while the hypotheses were tested with the help of regression analysis at 0.05 level of significance. Findings indicated a positive relationship existing between students' cognitive learning skills and mean academic achievement. The findings however indicated a negative

relationship existing between students' family climate and their academic achievement in social studies. *It was among others recommended that parents should at all times listen carefully and be close to their wards, not only to verbal communications but to nonverbal communications and to the emotions that may lie beneath what is said. It was also recommended that teachers should make students undergo an educational training in the area of cognitive learning skills.*

Introduction

Family is a basic social group united through bonds of kinship or marriage, present in all societies. Ideally, the family provides its members with protection, companionship, security, educational needs and socialization. The structure of the family and the needs that the family fulfills vary from society to society. The nuclear family- two adults and their children- is the main unit in some societies. In others, it is a subordinate part of an extended family, which also consists of grand-parents and other relatives. A third family unit is the single parent family, in which children live with an unmarried, divorced, or widowed mother or father. Ezekiel and Lawal (2014) viewed the family as a social group characterized by common residence, economic cooperation and reproduction with adults of both sexes, at least two of who maintain a socially approved sexual relationship. The manner in which the family is handled refers to family climate.

Family climate in the words of Goldstein (2003) is a structural and socio-economic circumstance, situations and conditions which are capable of influencing or affecting a child's physical, emotional and educational needs. In the same manner, Eamon (2005) saw family climate as the general family environment irrespective of structure that has great influence or is capable of influencing a child's socio-physiological and educational growth and development. Family climate has special importance in the understanding of family systems with mildly challenged children. Family social climates can be portrayed according to the interpersonal relationships among the family members, the directions of the personal growth which are emphasized in the system, and the family basic organizational structure. Apart from family climate, cognitive learning is also important for child's development.

Cognitive learning refers to ability to learn new information, speech and understanding of written materials. Fletecher (2016) saw cognitive learning as umbrella word for the process of perception, discovery, recognition, judging, memorizing, learning and thinking through which the individual obtains knowledge and conceptual understanding or explanation. Cognitive skills therefore are the core skills the brain uses to think, read, learn,

remember, reason, and pay attention. Working together, they take incoming information and move it into the bank of knowledge to enable one use it either at school, at work, or in other life situations (Ibeh, 2015).

Flavell in Ibeh (2015) saw cognitive learning as acquisition by the learner of facts, concepts and principles through intellectualization. For one to learn cognitively, one needs to apply some skills.

Cognitive learning skills involve all the mental process which the learner applies while learning. According to Kandel and Wu (2015), cognitive learning skills are skills that are used by individuals to appraise or monitor their cognition. These skills are fundamental to successful reading. They include note taking, use of concept mapping and mnemonic aids, cooperative scripts, rehearsals among others. Cognitive learning skills can enhance academic achievement of students.

Academic achievement as conceived in this study relates to the performance of students in either or both internal and external examinations in the school. It involves measurable and observable performance that takes place in the presence of a standard of excellence. The scores or grades a student gets in an examination, for instance, define the student's level of academic achievement. In their attempt to investigate what determines academic outcomes of learners, Aremu and Oluwole, (2014), Aremu and Sokan, (2013) revealed that academic achievement has been determined by such variables as: family climate, peer pressure, cognitive learning skills, school environment, society and motivational factors. The focus of this study was limited to family climate and cognitive learning skills as they relate to students' academic achievement.

A student that experience negative family climate is likely to have malfunctioning cognitive learning skills. For instance, Shittu (2015) noted that a child that is deprived of parental care or suffered gross deprivation of social and economic needs, is most likely to perform academically poor. Kandel and Wu (2015) noted gender as a strong factor on students' academic achievement. According to him, a female student who suffers parental and material deprivation and care due to divorce or death is likely to perform poorly in the school. Earlier, Aremu and Sokan (2013) found that male students performed better in social studies than their female counterparts. The academic achievement of the children is greatly affected by gender (Shittu, 2015). The situation of students in Ebonyi state in terms of family climate, cognitive learning skills and academic achievement of students prompted this study.

Presently in Ebonyi state, junior secondary school students' interest and academic achievement in social studies are declining. Ibeh,(2015) noted that some students in the state are losing interest in the subject. In the same manner, the attitudes associated with the learning of social studies among students in the state appear to affect students' performance in the subject. As if to worsen the situation, many social studies teachers in the state teach the subject without instructional materials and facilities (Mberengwa, 2004). The quality of most teachers and that of classroom facilities in some schools especially those in rural areas are grossly inadequate and obsolete. From the foregoing, it is evident that there is no one rule of thumb method that can be given as a universal solution to all problems of social studies instruction in the state.

The teaching and learning of social studies in Nigeria, and Ebonyi State in particular, are faced with many challenges. One of such challenges is the poor academic performance of the students.

A preliminary survey carried out by the researchers in some schools in Ebonyi State in 2015 and 2016, revealed that they performed poorly in their Junior Secondary School Certificate Examination in social studies. For instance, out of 638 students that sat for social studies in 2016 JSSCE examination, from the sampled schools, only 38 got distinction, 339 had credit level while 334 had ordinary pass (Examination Development Centre, EDC,2016). Again, personal observation of the researchers indicated that students in the state appear not to take interest in the study of social studies in the state.

The reasons for the problems identified above have become a subject of state-wide discourse and debate with regards to whether family climate and cognitive learning skills of students relate to academic achievement in the state. Though the discourse and debates are expressions of personal opinions arising from observations, they however suggest the need to query the characteristics of these students.

The following research questions guided the study:

1. What is the relationship between students' family climate scores and their mean achievement scores in social studies?
2. What is the relationship between students' cognitive learning skill scores and their mean achievement scores in social studies?
3. What is the relationship between male students' family climate scores and their mean achievement scores in social studies?
4. What is the relationship between female students' cognitive learning skill scores and their mean achievement scores in social studies?

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

1. There is no statistical significant relationship between students' family climate scores and their mean achievement scores in social studies.
2. Cognitive learning skill scores do not significantly relate with the mean achievement scores of secondary school students' in social studies.

Method

This research adopted a co-relational survey design. It was carried out in Ebonyi State. The population for the study comprised all the 25,298 SSI students in three education zones of Ebonyi State. Data collected from Planning, Research and Statistics (PRS) of the Secondary Education Board (SEB), Abakaliki (Sept., 2016) revealed that there are 25,298 SSI students made up of 12,509 males and 12789 females in the State. The focus of this study was SSI students that sat for Junior Secondary School Certificate Examination in 2015. The sample for this study comprised 395 respondents made up of 194 and 201 male and female SS I students respectively. The subjects were selected using Cluster Sampling technique with replacement. The researchers used Taro Yamane formulae to determine the sample size. Furthermore, the researchers used proportionate sampling technique to select 30 schools (representing 7.4%) out of the 221 public schools in the state. The ratio for the schools thus: Onueke= 9schools, Afikpo=11 schools, and Abakaliki= 10 schools. The percentage ratio for the respondents in each zone is thus: Onueke =116 respondents representing 29.35%; Afikpo zone=141 respondents representing 35.70%; while Abakaliki zone =138 representing 34.94%.

This gave 395 respondents from the 30 secondary schools and this constitutes 13.57% approximately 14% of the entire population.

A researcher-developed rating scale titled "Family climate and cognitive learning skills rating scale (FCLSRS) and social studies achievement test (SSAT) were the instruments for data collection. FCLSRS was made up of Parts "A" and "B". Part A was on the personal data of the respondents. Part B was a 4-point scale and has 2 clusters. Cluster 1 covers family climate with 10 items and Cluster 2 has 10 items on cognitive learning skills. SSAT was a 30-item objective questions centered on social studies. The results obtained from the SSAT were used to determine the academic achievement scores of the students.

The face validity of the two instruments was determined. The researchers presented copies of FCLSRS and SSAT together with the purpose of the study, research questions and hypotheses to three experts, two in social

studies and one in Measurement and Evaluation, all in Faculty of Education, Ebonyi State University, Abakaliki. These experts were requested to go through the items and examine them in terms of clarity of the language used, relevance of items to the purpose of the study, the suitability of the items to the level of the respondents and coverage of the dimensions of the study. Their corrections and suggestions led to the modification of the instruments.

For the testing of reliability of FCLSRS, the instrument was administered to 40 SSII secondary school students in Enugu State. The scores obtained from the respondents were collated to determine the correlation coefficient. The correlation coefficient of the sets of scores for the items in each section were obtained using Cronbach Alpha. The reliability indices for the two sections include 0.86 and 0.82 respectively. The choice of Cronbach Alpha is in line with Kobal and Musek (2016) who recommended Cronbach Alpha as a very useful statistical tool for determining the internal consistency of a homogenous instrument. They also recommended that correlation index of 80 or above are high for any instrument. Similarly, the reliability of SSAT was determined using test-re-test method. The test was first administered on 20 SSI students in Enugu State and after an interval of two weeks; the same test was administered on the same sample. The results gotten from the two sets of test administration were correlated using student's t-test for correlation. A reliability index of 0.85 was obtained for SSAT. Enugu State was chosen for the reliability test because it has similar characteristics with the area of the study. Since students' characteristics in both states are similar, the choice of Enugu State for the reliability test becomes justified. The researchers administered the instrument using direct delivery technique (DDT) with the help of three research assistants, one each from the three Education Zones in the State. The research assistants were briefed on the purpose of the research.

Data were collected and computed into the computer for analysis. SPSS (Statistical Package for Social Sciences) version 18 was used for the analysis. Answers to research questions were sought using means and Spearman's rho correlation coefficient; while the hypotheses were tested with the help of regression analysis at 0.05 level of significance. The decision rule for this analysis says thus: if the P-value was less than 0.05 which was the level of confidence, the hypothesis was rejected, whereas if the P-value was greater than 0.05, the hypothesis was accepted.

Results

Table1: Spearman’s rho Relationship between Students’ Family Climate and their Academic Achievement in Social Studies

		MEAN FAMILY CLIMATE	ACA. ACHIV. SCORES
Spearman 's rho	Mean Family Climate	1.000	-.196**
		.	.000
		394	390
	Aca. Achiv. Scores	-.196**	1.000
		.000	.
		390	391

The result in Table 1 showed the relationship between students’ family climate and their academic mean achievement in social studies. The result indicated a correlation coefficient of -0.196 with a p-value of 0.000 indicating a negative relationship existing between students’ family climate and their academic achievement in social studies.

Table2: Spearman’s rho Relationship between Students’ Cognitive Learning Skills and their Academic Mean Achievement in Social Studies

		MEAN COGNITIVE LEARNING SKILLS	SCORES
Spearman’s rho	SCORES	1.000	.291**
		.	.000
		391	383
	MEAN COGNITIVE LEARNING SKILLS	.291**	1.000
		.000	.
		383	387

The result in Table 2 showed the spearman’s correlation coefficient of the relationship that exists between students’ cognitive learning skills and their academic mean achievement in social studies. The result indicated a positive relationship existing between students’ cognitive learning skills and mean academic achievement. The result indicated a correlation coefficient (r_s) of 0.291 and a p-value of 0.000. The relationship that exists between students’ cognitive learning skills and their mean academic achievement in social studies is a weak relationship.

Table3: Spearman's Correlation Coefficient Result for Male and female Students' Family Climate and their Academic Achievement in Social Studies

Male			MEAN FAMILY CLIMATE	SCORES
Spearman's rho	MEAN FAMILY CLIMATE	Correlation Coefficient Sig. (2 – tailed) N	1.000 193	-.291** .005 189
	SCORES	Correlation Coefficient Sig. (2 – tailed) N	-.202** .005 189	1.000 .005 190
Female			MEAN FAMILY CLIMATE	SCORES
Spearman's rho	MEAN FAMILY CLIMATE	Correlation Coefficient Sig. (2 – tailed) N	1.000 201	-.195** .006 201
	SCORES	Correlation Coefficient Sig. (2 – tailed) N	-.195** .006 201	1.000 .006 201

The result in Table 3 showed the spearman's correlation coefficient of relationship that exists between male students' family climate and their academic achievement in social studies. The result indicated a negative relationship existing between male students' family climate and their academic achievement in social studies. The result indicated a correlation coefficient (r_s) of -0.202 and a p-value of 0.005. The relationship that exists between male students' family climate and their academic achievement in social studies is a weak and a negative relationship.

The result in table 3 also shows the spearman's correlation coefficient output reporting the level of co-relationship that exists between female students' family climate and their academic achievement in Social Studies. The result revealed a negative and weak relationship existing between female students' family climate and their academic achievement in social studies as indicated by the calculated correlation coefficient (r_s) of -0.195 and a p-value of 0.006.

Table4: Spearman’s Correlation Coefficient Result for male and female students’ cognitive learning skills and their academic achievement in Social Studies

		SCORES		MEAN COGNITIVE LEARNING SKILLS
Spearman’s rho	SCORES	Correlation Coefficient	1.000	.422**
		Sig. (2 – tailed)	.	.000
		N	190	187
		SCORES		MEAN COGNITIVE LEARNING SKILLS
	MEAN COGNITIVE LEARNING SKILLS	Correlation Coefficient	.422**	1.000
		Sig. (2 – tailed)	.000	.
		N	187	191
		SCORES		MEAN COGNITIVE LEARNING SKILLS
Spearman’s rho	SCORES	Correlation Coefficient	1.000	.110
		Sig. (2 – tailed)	.	.124
		N	201	196
		SCORES		MEAN COGNITIVE LEARNING SKILLS
	MEAN COGNITIVE LEARNING SKILLS	Correlation Coefficient	.110	1.000
		Sig. (2 – tailed)	.124	.
		N	196	196

The result in table 4 showed the Spearman’s correlation coefficient of the relationship that exists between male students’ cognitive learning skills and their academic achievement in social studies. The result has reported that there is a positive co-relationship exists between male students’ cognitive learning skills and their academic achievement in social studies. The result indicated a correlation coefficient (r_s) of 0.422 and a p-value of 0.000.

Table 5: Summary of Regression Analysis on the students’ family climate and their academic achievement score in Social Studies $p < 0.05$.

Model Summary			
R	R Square	Adjusted R Square	P-value
0.157	0.025	0.022	0.001

The Table 5 showed a summary of the Regression Analysis produced using SPSS 18. The result reported that there is a significant relationship existing between students’ family climate and their academic achievement scores in social studies ($p < 0.05$) as the p-value of 0.001 was less than 0.05 level of significance, with R square = 0.022 and R= 0.157. This means that the

researchers rejected H_0 and concluded that there is a significant relationship existing between students' family climate and their academic achievement score in social studies ($p < 0.05$). This indicated that students' family climate did have a significant relationship with students' academic achievement in social studies.

Table 6: Summary of Regression Analysis on the Cognitive learning skills and students' academic achievement score in Social Studies $p < 0.05$.

Model Summary			
R	R Square	Adjusted R Square	P-value
0.334	0.112	0.109	0.000

Table 5 showed a summary of the Regression Analysis output produced using SPSS 18. The result revealed that a significant relationship exists between cognitive learning skills and students' academic achievement score in social studies ($p < 0.05$) as indicated by the p-value of 0.000 which was less than 0.05 being the level of significance, with R square = 0.112 and $R = 0.334$. This means that the researchers rejected H_0 and concluded that cognitive learning skills will significantly relate with the academic achievement of secondary school students' in social studies ($p < 0.05$). This result however shows that cognitive learning skills if employed by the students have significant influence on their academic achievement.

Discussion

Result of the study showed the relationship between students' family climate and their academic achievement in social studies. The result revealed that family climate related with students' academic achievement in social studies in Ebonyi State. The result of this study confirmed the findings of Akpale (2014) that family type is a significant factor influencing students' academic performance. Supporting the finding also is Anyakoha and Nnajieta (2014) who found that family structure and type of parenthood significantly influenced academic performance of students.

In addition to the above, the result of the study indicated that a weak positive relationship exists between students' cognitive learning skills and academic achievement in social studies. The result has accounted for a weak positive relationship existing between student's cognitive learning skills and academic achievement, as the correlation coefficient (r_s) of 0.291 with a P-value of 0.000 was obtained. The result is the correlation coefficient (r_s) value

is greater than the P-value of 0.000. The study revealed that secondary school students employ cognitive learning skills-like Note taking, constant revision, co-operative scripts, use of mnemonics and concept mapping.

This finding agreed with Shittu (2015) who observed that note-taking had been used by students as tool for many years and the value seemed widely accepted. Also in agreement with the findings of the study is Fletcher (2017) who concluded that accurate, organized note taking is one of the skills that was essential to success in conventional lecture discussion. Furthermore, Goldstein (2003) found that the use of Co-operative script better enhanced achievement and retention. He further stressed that there is relationship between student's academic achievements and their cognitive learning skills. This is because these skills assist students to recall and retrieve what they have learned. Similarly, Akpale (2014) contented that there was positive relationship between students' cognitive skills and their academic achievement. The researcher therefore submits that students should be made to apply this cognitive learning skills during learning of Social Studies since the result of its usage were obvious in academic achievement.

Again, the result of the study indicated the nature of relationship between students' cognitive learning skills and academic achievement in social studies. The result has shown a positively weak relationship existing between student's cognitive learning skills and academic achievement, as the correlation coefficient (r_s) of 0.291 with a P-value of 0.000 was obtained. This means that the correlation coefficient (r_s) value was greater than the P-value of 0.000. This implied that secondary school students employ cognitive learning skills-like note taking, constant revision, co-operative scripts, use of mnemonics and concept mapping. This finding agrees with Shittu (2015) who also found that note-taking had been used by students as tool for many years and the value seemed widely accepted.

Implications for Managing Secondary Schools in Ebonyi State

This study has serious implications for managing secondary schools in Ebonyi State. The findings of this study indicated that family climate and cognitive learning skills are positively related to students' academic achievement of students in Ebonyi State. This implies that secondary school managers in the state need to involve parents in the management of the students. They can do this by creating a platform to interact with the parents of the students. Such a platform may be in form of inter-house competitions or well-functioning school-based management committee. The school managers can use such occasions to advise or encourage parents to maintain positive family climate since this can enhance the students' academic achievement.

School managers in the state can also make proposals to the state Ministry of Education on the need for secondary school teachers to undergo in-service training programmes on cognitive learning skills. This will improve their teaching skills and by extension, the academic achievement of the students.

Conclusion

The conclusion of this study is that family climate and cognitive learning skills are positively related to students' academic achievement of students. The implication of this to school managers in Ebonyi State is that they can work parents of the students and as well, ensure that teachers under them undergo necessary training in order to enhance students' academic achievement.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Parents should at all times listen carefully and be close to their wards, not only to verbal communications but to nonverbal communications and to the emotions that may lie beneath what is said.
2. Parents should make every effort to reduce if not completely do away with broken homes and its causes. Since intact home predisposes good academic performance. On this parents should be enlightened through workshops/seminars on the dangers of unhealthy family climate.
3. Educational managers should incorporate learning of specific cognitive skills as aspects of the social studies curriculum to enable students in the area appreciate the importance of cognitive skills in their daily studies.
4. Teachers are to look into their teaching methods and instructions and pedagogical processes. Students need to re-examine their commitment to academic activities. In the same manner, parents seem not to be assisting these children academically in their homes.
5. It is also recommended that teachers should make students undergo an educational training in the area of cognitive learning skills.

References

- Anyakoha, C.I. & Nnajieta, C.C, (2014), Parental type and its influence on the academic performance of secondary school students in Owerri education zone. In *Journal of Research Studies in Education*.1:1.41-45.
- Aremu, A.O. & Oluwole, DA (2014). Gender and birth order as predictors of normal pupil's anxiety pattern in examination. *Ibadan Journal of Educational Studies*, 1, (1), 1 – 7.

- Aremu, A.O. & Soka, B.O. (2013). A multi-causal evaluation of academic performance of Nigerian learner: issues and implications for national development. In Ayodele- Bamisaiye, O; Nwazuo, I .A. & Okediran, A. (eds), *Education This Millennium* (pp 365-375). Ibadan: Macmillan Nig. Ltd.
- Akpale, B.H. (2014), the importance of inquiring method as a tool for effective teaching and learning of Social Studies in Secondary Schools. *Nigerian Journal of Social Studies and Civic Education* 6,(1)265.
- Eamom, M.K. (2005). Social-demographic, school, neighbourhood, and parenting influences on academic achievement of Latino young adolescents. *Journal of Youth and Adolescent*, 34 (2),163-175.
- Ezekiel, A.D. & Lawal, R.(2014),Social factors as determinants of Academic Achievement of students: An overview. *Journal of Research Studies in Education*.1(1).
- Fletcher, R. (2016). *The family and marriage in Britain*: PenguinBks Ltd. Harmondsworth Middlesex, England.
- Goldstein, S. (2003). *Beyond the best interests of the child*.Free press. New York.
- Ibeh, A.I. (2015). Family Climate, Peer Pressure and Cognitive learning skills as correlates of students academic achievement in social studies. *Unpublished Ph.D. Thesis*. Imo State University, Owerri.
- Kandel, D. B. & Wu, P. (2015). The contributions of mothers and fathers to the intergenerational transmission of cigarette smoking in adolescence. *Journal of Research on Adolescence*, 5(2), 225- 252.
- Kobal, D. & Musek, J. (2016). Self- Concept and academic achievement: Slovenian and France. *Personality and Individual Differences*, 30(5), 887-899.
- Mberengwa, K. J. (2014). Family learning Environments a student's Outcomes: A Review. *Journal of Comparative Studies* 27 (2),373-394.
- Shittu, M. R. (2015). *Influence of Secondary School Teachers' moral on the Academic Achievement in Yoruba Language*. *Unpublished B.Ed Thesis*. University of Ibadan.