The Learning Environment and Non-cognitive Values of Secondary School Students in Cross River State, Nigeria

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Abstract

The study examined the predictive influence of learning environment factors on senior secondary school students' non-cognitive values (attitude to school, interest in school and self-concept). A random sample of 965 senior secondary 2(SS2) students was used for the study. Results revealed, among others, that the learning environment factors jointly significantly predicted each of the non-cognitive characteristics of the students. It was, therefore, concluded that the learning environment, both at home and in school was key to the affective or non-cognitive development of the school learner. It was recommended, among other things, that parents and school administrators should balance firmness and supportiveness in the administration of discipline in homes and schools, respectively.

Keywords: learning environment factors, non-cognitive values, affective characteristics, values, beliefs, attitudes

1. Introduction

Education remains a tool for the transmission of a society's acceptable affects to its people. Values, beliefs, attitudes and other affective ideals are usually transferred from generation to generation through formal and non-formal education settings. These affective or non-cognitive ideals do not only accelerate a nation's development, they also ensure national cohesion and unity. It is to this end that non-cognitive values of learners are critical among the educational aims and objectives articulated in the Nigerian National Policy on Education, which include self-realization, effective citizenship, better human relations, respect for the dignity of labour, etc.(Federal Republic of Nigeria, 2004). The appropriation of these and other national values and ideals sets the pace for national growth and determines our degree of cohesion as a nation.

Educational objectives, as posited by Ojating (2014), have over the years been geared toward the cognitive learning domain. Students and learners at all levels are hardly assessed on the basis of their affective/non-cognitive characteristics or values. All they know is to write examination, pass and obtain a certificate. Their values, dispositions to school, feelings about school and other affective traits are never tested. Many more scholars have decried the age-long reliance on and obsession for cognitive values of school learners at the expense of non-cognitive values which do not only enhance learning generally, buy bear far-reaching implications for societal development and growth. Ekundayo (2010) asserted that personality traits like honesty, hard work, punctuality, self-denial and self-discipline, which are necessary conditions for effective citizenship have disappeared in the secondary schools. Students, these days, appear to be lazy, dishonest and always search for short-cuts to success. A study by The Star (2020), to examine the relationship between environmental factors and students' quality of life, a mediating variable to their academic performance, yielded a significant link between the environment of a student and his quality of life. This quality life, which enhances learning outcomes, essentially, should find expression in the cultivation of well improved non-cognitive (affective) values by the school learner. Another study by Chaudhary and Timsina (2017) analyzed the students' view of the possible flooding effect on school facilities, students' families, community infrastructure and the overall effects on their educational outcomes. The results of this research indicated that flooding impacts their performance, especially for secondary level students. They were fearful of any possible disastrous incidents such as the destruction of school infrastructure and their homes. Such a harsh and volatile environment would naturally make young learners to become poorly motivated to learn. Pietro (2018) found that students tend to suffer from stress disorders and a significant disruption in their learning environment because some

university buildings were damaged by the L'Aquila earthquake in Italy. The finding showed that the L'Aquila earthquake contributed to negatively impact on the academic achievement of students of local universities in Italy The results proved that natural disasters reduce the likelihood of students passing the exam due to interruptions in the learning and traumatic environment experienced by their after the L'Aquila earthquake. Students who go through this ordeals may gradually lose interest in schooling and in extreme cases drop out of school. Nepal (2016) analyzed the relationship between the condition of school's infrastructure facilities, learning environment and students' outcomes. His study includes three elements: input variable; mediating variable and output variable. The condition of the school's infrastructure facility is an input variable, which indicates 70%, a good linear relationship between school's infrastructure facilities and student learning outcome. Learning outcomes are not necessarily the traditional cognitive goals. They include the learners' affective values, such as, his overall disposition to school and sense of 'feeling'. This researcher believes that the virtual total neglect of affective learning objectives in secondary schools has very serious implications not only for the future of learners at this level but for the overall national growth. This situation of neglect finds expression in the marked impunity with which students engage in examination malpractice and other school related vices.

2. Method

The study utilized the ex-post facto research design. The choice of this design was owing to the fact that the independent sub-variables (learning environment factors) were not manipulated. Their influence on the dependent variable (non-cognitive values) had already occurred prior to the study. The target population of the study was all Senior Secondary School students in Cross River State Public Secondary Schools. The actual study population of 13,769, however, was the SS2 class of students in the State. This class was chosen because it was believed that students here were not only relatively mature to understand and respond appropriately to the instrument, they were also relatively emotionally stable since they were yet to be pre-occupied with preparing for an external examination like their colleagues in SS3. The study sample was nine hundred and sixty five (965) Senior Secondary 2 students randomly selected from the population. Out of this number, 40% (518) were males and 40% (447) were females. The instrument used for data collection was a questionnaire titled 'Questionnaire on the effect of environmental variables on students' affective characteristics' (QEEVOSAC). The questionnaire items were of the modified 4-point Likert type with four response categories of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The instrument passed through face validation by experts in Measurement and Evaluation. Reliability of estimates, by Split-half method, of the research variables ranged from .66 and .86. Multiple linear regression analysis was applied in testing the three hypotheses at .05 level of significance.

3. Results

Hypothesis one

Learning environment factors (tone of discipline in the home, peer group influence, tone of discipline in the school, students' rating of home physical facilities, perceived quality of school physical infrastructures, parental academic stimulation, teacher-student relationship, students' rating of teacher's use of instructional aids, students' rating of school recreational facilities and students' rating of school library facilities) do not jointly and individually significantly predict students' attitude to school.

Table 1. Summary of multiple regression analysis of the composite contribution of the ten environmental variables to the prediction of students' attitude to school

Multiple R	=.424
Multiple R Square $(R)^2$	=.180
Adjusted Multiple R Square	=.169
Standard Error of estimate	=3.22464

Analysis of variance of students' attitude to school

Source of Variation	Sum of Squares	df	Mean Square	F	Sig
Regression	1679.550	10	167.955	16.152	.000
Residual	7653.149	736	10.398		
Total	9332.699	746			

* Significant at .01 level

Table 1 shows that the analysis of variance for the multiple regression data produced an F-ratio of 16.152 significant at .01 level. Based on this result, hypothesis one which states that environmental variables do not jointly and individually significantly predict students' attitude to school is rejected (for the independent variables taken together). The implication being that environmental variables are significant predictors of students' attitude to school. The relative contribution of each of the environmental variables to students' attitude to school is as shown in Table 2.

Table 2. Summary of multiple regression analysis of the relative contributions of the individual environmental variables to the prediction of students' attitude to school

S/N	Variables	Unstandardized Reg. Weights	Standardized Reg. Weight	SE_b	t-ratio	P-Value
1	Tone of Discipline in the school	.149	.140	.040	3.698	.000
2	Peer group influence	.057	.057	.038	1.495	.135
3	Tone of discipline in the school	.121	.111	.040	3.022	.003
4	Home Physical Facilities	-.040	-.039	.039	-1.039	.299
5	School Physical Infrastructure	.066	.074	.034	1.915	.056
6	Parental academic stimulation	.214	.200	.040	5.403	.000
7	Teacher-Student relationships	.091	-.087	.041	2.227	.026
8	Teachers Instructional Aids	.056	.048	.044	1.276	.202
9	School Recreational Facilities	-.022	-.020	.039	.559	.576
10	School library facilities	.046	-.057	.029	-1.595	.111

Dependent variable: attitude to school.

*Significant at .01 level.

Based on the results in Table 10, the t-ratios of four environmental variables (tone of discipline in the home, tone of discipline in the school, parental academic stimulation and teacher-student relationship) were significant at .01 level. This result indicates that hypothesis one which states that "environmental variables do not jointly and individually significantly predict students' attitude to school is rejected for four of the environmental variables (taken separately).

Hypothesis two

The following environmental variables (tone of discipline in the home, peer group influence, tone of discipline in the school, students' rating of home physical facilities, perceived quality of school physical infrastructures, parental academic stimulation, teacher-student relationship, students' rating of teacher's use of instructional aids, students' rating of school recreational facilities and students' rating of school library facilities) do not jointly and individually significantly predict students' interest in school.

Table 3. Summary of multiple regression analysis of the composite contribution of the ten environmental variables to the prediction of students' interest in school

Multiple R	=.486
Multiple R Square $(R)^2$	=.236
Adjusted Multiple R Square	=.225
Standard Error of estimate	=3.12126

Analysis of variance of students' interest in school

Source of Variation	Sum of Squares	df	Mean Square	F	Sig
Regression	2211.869	10	221.187	22.704	.000
Residual	7170.295	736	9.742		
Total	9382.163	746			

*Significant at .01 level

From Table 3, the analysis of variance for the multiple regression data produced an F-ratio of 22.704, significant at .01 level. Going by this result, hypothesis two which states that "environmental variables do not jointly and individually significantly predict students' interest in school is hereby rejected (for the independent variables taken together). It follows therefore that the ten environmental variables are significant predictors of students' interest in school. The contribution of each of the ten environmental variables to students' interest in school is obtained through the application of multiple regression analysis techniques on the data for purposes of testing the significance of the regression weights. The results are presented in Table 4.

Table 4. Summary of multiple regression analysis of the relative contributions of the individual environmental variables to the prediction of students' interest in school

S/N	Variables	Unstandardized Reg. Weights	Standardized Reg. Weight	SE_b	t-ratio	P-Value
1	Tone of Discipline in the school.	.159	.145	.039	4.075	.000
2	Home Physical Facilities	-.102	-.097	.038	-2.701	.007
3	School Recreational Facilities	.097	.094	.038	2.554	.011
4	Teachers Instructional Aids	.040	.034	.043	.931	.352
5	School Physical Infrastructure	.042	.047	.033	1.275	.203
6	Tone of discipline in the home	.204	.191	.039	5.215	.000
7	School library facilities	-.003	-.004	.028	-.110	.912
8	Teacher-Student relationships	.130	.124	.039	3.294	.001
9	Peer group influence	.084	.083	.037	2.257	.024
10	Parental academic stimulation	.132	.123	.038	3.440[*]	.001

Dependent variable: students' interest in school

*Significant at .01 level.

The results in Table 4 show that two predictors, home physical facilities and school library facilities predicted student's interest in school inversely. Other variables were positive predictors of the dependent variable (students' interest in school). The t-ratios of seven environmental variables (tone of discipline in the school, home physical

facilities, school recreational facilities, tone of discipline in the home, teacher-student relationship, peer group influence and parental academic stimulation) were significant at .01 level. Teacher's instructional aids, school physical infrastructures and school library facilities were not significant at .05 probability level. By this result, hypothesis two which states that "environmental variables do not jointly and individually significantly predict student's interest in school is hereby rejected for seven of the environmental variables taken separately.

Hypothesis three

The following environmental variables (tone of discipline in the home, peer group influence, tone of discipline in the school, students' rating of home physical facilities, perceived quality of school physical infrastructures, parental academic stimulation, teacher-student relationship, students' rating of teacher's use of instructional aids, students' rating of school recreational facilities and students' rating of school library facilities do not jointly and individually predict students' self-concept.

Table 5. Summary of multiple regression analysis of the composite contribution of environmental variables to the prediction of students' self-concept

Multiple R	=.424
Multiple R Square $(R)^2$	=.180
Adjusted Multiple R Square	=.169
Standard Error of estimate	=3.22464

Analysis of variance of students' self-concept

Source of Variation	Sum of Squares	Df	Mean Square	F	Sig
Regression	1526.740	10	152.674	16.482	.000
Residual	6817.729	736	9.263		
Total	8344.469	746			

Significant at .01 probability level.

Table 5 shows that the analysis of variance for the multiple regression data produced an F-ratio of 16.482, significant at .01 level. On the basis of this result, hypothesis three which states that "environmental variables do not jointly and individually significantly predict students' self-concept" is hereby rejected (for the independent variables taken together). This implies therefore that environmental variables are significant predictors of students' self-concept. To obtain the contribution of each of the environmental variables to students' self-concept, multiple regression analysis was applied on the data in order to test the significance of the regression weights. The results are presented in Table 6.

Table 6. Summary of regression analysis of the relative contributions of the individual environmental variables to the prediction of students' self-concept

S/N	Variable	Unstandardized reg. weight	Standardized reg. weights	SE	T-ratio	p-level
1	Tone of discipline in the school	.147	.143	.038	3.89	.000
2	Home physical facilities	-.082	-.083	.037	-2.24	.025
3	School recreational facilities	.058	.059	.037	1.7	.118
4	Teachers instructional aids	.036	.032	.042	.86	.393
5	School physical infrastructures	.076	.0991	.032	2.36	.019
6	Tone of discipline in the home	.122	.121	.038	3.20	.001
7	School library facilities	.018	.024	.027	.67	.502
8	Teacher-student relationship	.086	.087	.038	2.23	.026
9	Peer group influence	.086	.090	.036	2.39	.017
10	Parental academic stimulation	.129	.127	.037	3.44	.001

Dependent variables: student's self-concept.

*Significant at .01 level.

From Table 6, the t-ratios of seven variables (tone of discipline in the home, home physical facilities, school physical infrastructures, tone of discipline in home, student-teacher relationship, peer group influence and parental academic stimulation) were significant at .01 level. Teachers' instructional aids, school recreational facilities and school library facilities were not significant at .05 probability level. By this result, hypothesis one which states that "environmental variables do not jointly and individually significantly predict students self-concept is rejected for seven of the environmental variables (taken separately)

4. Discussion

The results of hypotheses one, two and three in Tables 1, 3, and 5 showed that all the ten environmental variables are really effective in predicting each of the affective characteristics of senior secondary school students. The observed F-ratios of 16.152, 22.704 and 16.482 for students' attitude, interest and self-concept, respectively were each significant at .01 level. This implies that the effectiveness of the joint contribution of the environmental variables in predicting the affective characteristics of senior secondary school students could not have occurred by chance. The results equally show that the environmental variables when taken together accounted for 18.0%, 23.6% and 18.3% of each of the total variances of senior secondary school students' attitude to school, interest in school and self-concept, respectively. The foregoing results agree with a study carried out by Ajaye, et. al., (2009) on learning environment and secondary school effectiveness in Nigeria with a sample comprising 1200 teachers and 60 principals, which revealed that the learning environment in secondary schools was conducive and that the secondary schools were effective in the affective and psychomotor domains of learning but not all that effectiveness in the cognitive domain.

In addition, Tables 2, 4 and 6 show the contributions made by each environmental variable to the prediction of students' attitude to school, interest in school, and self-concept. The values of t-ratios associated with each environmental variable against attitude to school showed that out of ten predictor-variables, tone of discipline in the school; tone of discipline in the home, teacher- student relationship and parental academic stimulation contributed significantly to the prediction of senior secondary school students' attitude to school. The following seven environmental variables contributed significantly (at .01 probability level) to the prediction of students' interest in school: tone of discipline in the school, home physical facilities, school recreational facilities, tone of discipline in the home, teacher-student relationship, peer group influence and parental academic stimulation. The results also show that seven variables (tone of discipline in the school, home physical facilities, school physical infrastructure, tone of discipline in the home, teacher–student relationship, peer group influence and parental academic stimulation) out of the ten environmental variables contributed significantly to the prediction of the self-concept of senior secondary school students. These findings are in consonance with those of Fan and Williams (2009) found a significant link between family rules for watching television and students' engagement (attitude) and intrinsic

motivation (interest) towards English and Mathematics. The weak predictive effect of Teacher's instructional aids, school library facilities, and school recreational facilities on the affective characteristics of senior secondary school students as revealed in this study, is indeed at variance with the findings of some studies (Staempfli, 2009).

5. Conclusion

Based on the findings of this study, the ten environmental variables (taken together) significantly predict each of the affective characteristics of senior secondary school students (attitude to school, interest in school and self-concept). Four of the ten variables (tone of discipline in the home, tone of discipline in the school, parental academic stimulation and teacher-students relationships) were individually significant in predicting students' attitude to school. Also, variables that individually significantly predicted students interest in school were seven out of ten (tone of discipline in the home, peer group influence, tone of discipline in the school, home physical facilities, school recreational facilities, parental academic stimulation and teacher-student relationship. The direct significant predictors of self-concept were seven out of ten environmental variables (tone of discipline in the school, home physical facilities, school physical infrastructure, tone of discipline in the home, teacher-students relationship, peer group influence and parental academic stimulation).

6. Recommendations

Based on the findings of this study, the following recommendations could be useful for the purpose of improving the affective characteristics of senior secondary school students.

i. Public enlightenment campaigns should be initiated and sustained for parents on best ways of administering discipline in the home to enhance students' affective values.

ii. School administrators should adopt school discipline patterns that combine strictness and supportiveness.

iii. School administrators should use PTA platforms to educate parents on the need to create home environments with physical facilities that promote students' affects towards learning.

iv. Parents should be properly sensitized on the essence of stimulating their children/wards academically.

v. Government should provide and/or improve upon physical infrastructures in schools to boost students' interest in school and self-concept.

vi. Government should introduce counseling services in all public secondary schools. This way, students will readily be counseled on the nature and implications of peer relationships.

vii. Government should refrain from engaging non-professional (untrained) teachers to teach in schools. Such untrained teachers know little or nothing about the ethics of teaching. Little wonder that the untrained teacher will normally repel his learner, rather than welcome or be-friend him.

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