School Climate and its Effect on Students' Enrolment Growth: A Case Study of Abubakar Tatari Ali Polytechnic Model Staff School, Bauchi

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***Abstract*: This research aimed to investigate the relationship between school climate and student' enrolment growth in Abubakar Tatari Ali polytechnic Model Staff School, Bauchi, (popularly called ATAP International School, Annex). Correlational and descriptive survey research designs were adopted in this study. Five essential dimensions of school climate were focused in the study, name: institutional environment, school-community relationship, principal's leadership, teaching and learning, and school fees. The target population for this study comprised all parents in the host community, all the teachers and all the students in Abubakar Tatari Ali polytechnic Model Staff School, Bauchi. A sample of 148 respondents participated in the study. The respondent participants comprised 90 parents, 19 teachers and 39 students. Sample of the parents was selected through random sampling technique, while census (i.e. involving all subjects) sampling technique was employed to sample teachers. The student respondents for the study were selected through stratified random sampling technique. A structured questionnaire was utilized as the tool for data collection. The data collected were analysed using descriptive statistics and inferential statistics in the form of mean and standard deviation and regression analysis. The hypothesis of the study was tested at α=.05level of significance. The study rejected the null (H_o) hypothesis and accepted the alternative (H_a) hypothesis of the study which stated that school climate factors have significant effect on students' enrolment growth in Abubakar Tatari Ali polytechnic model staff school, Bauchi. Based on the findings of the study it was recommended that the school should improve such climate dimensions as principal's leadership, school-community relationship, teaching/learning and institutional environment.**

***Key words*: school climate, enrolment, leadership, teaching-learning**

I. INTRODUCTION

Series of studies have shown that a positive, supportive and culturally conscious school climate can significantly affect the degree of school enrolment growth and relationships and instructions, (Clifford, Menon, Condon, & Hornung, 2012; Gangi, 2010; Haggerty, Elgin, & Woodley, 2010). Empirical evidence in several literatures have highlighted institutional environment, leadership, teaching and learning, school-community relation and tuition price as climate dimensions that shape our subjective experience in schools. (Blum, McNeely, & Rinehart, 2002; Goodenow & Grady, 1993; V. E. Lee, Smith, Perry, & Smylie, 1999; Osterman, 2000; Wentzel, 1997). This study was hinged on these dimensions to determine if school climate has significant impact on pupil enrolment growth at Abubakar Tatari Ali Polytechnic Model Staff School, Bauchi.

Researchers argue that an ideal secondary school size is between 600 and 900 students, some views put it at between 400-500 students, and yet, some stress that appropriate school size for a secondary school is 400-800 students in order to optimize effectiveness. (Lee and Smith, 1999; Shepherd, 2004; Leithwood & Jantzi, 2007; Kathleen, 1996). Abubakar Tatari Ali polytechnic staff school, Bauchi has not attained the ideal secondary school size due to declined enrolment.

The construct school climate defies a single internationally accepted definition. Therefore, various definitions by different authors have been cited in this review. For instance, The National school Climate Council (2007) defines school climate as 'the quality and character of school life.' Jeny (2017) opines that school climate is a mixture of beliefs, values and behaviors of students, teaching staff, leaders and parents, level of independence, leadership styles and job satisfaction. It is implying that there is a link between positive climate in the school and its effectiveness (Hoy and Sabo, 1998 & Freiberg and Stein, 1999). Similarly, some scholars view the features of the school environment that are experienced by such stakeholders as the teachers, administrators and students as school climate, (Wang & Degol, 2016; Schweig, et.al. 2019).

On the other hand, also there is no one commonly accepted list of the essential dimensions that colour and shape the school climate. However, pioneers on school climate research have stressed that 'community's and students' perceptions about the school are critical in determining effective climate where teachers teach effectively and students achieved academically, (Halpin and Croft, 1963). Later on, Halpin, (1966) categorizes climates that exist in schools into six viz: open climate, closed climate, controlled climate, family climate, paternal climate, and autonomous climate. Alexandra, (2007), contends that many researchers are in agreement that school climate is multidimensional construct comprising academic, social and physical dimensions. In a related view, Brook (1999) posits that quality of interaction, personality of school, environmental factors, academic performance, safety and school size, and trust and respect are elements that have vital role to play in school climate determination. In a contemporary study, Amri and Shawn, (2015) identified safety, relationships, teaching and

learning, institutional environment and school improvement process as the main dimensions of focus in the assessment of school climate. Litwin (1968) observes that it is possible to improve the school climate through enhanced principal's leadership within a short time. Kostyo et.al, (2018) observed that measuring school climate contributes to school improvement. The scholars further point out that information gathered from climate surveys can be utilized to diagnose and improve the conditions of the school in all areas.

Abubakar Tatari Ali Polytechnic Practicing School, (popularly called ATAP International School, Annex) was established in 2018 with enrolment of 53 students. The school was established under School of Vocational and Technical Education (SVTE). It serves as the practical teacher training ground for the N.C.E Technical and B.Tech. Education students of the institution. In addition to polytechnic community, admission is opened to the host community and the general public. ATAP Staff School is located in the main campus at Wuntin Dada, Jos Road, Bauchi. The school has 24 classrooms, fully equipped with seats and air conditions. It is closely surrounded by Tambabri village, Wuntin Dada community, Tambari Housing Estate and the Staff Quarters within the polytechnic main campus.

Unfortunately, since interception in 2018, Abubakar Tatari Ali Polytechnic Staff School, (ATAP International School, Annex) has been facing challenges of declined enrolment growth. Currently (2022), the school has a total population of 106 students. Going by the Nigeria's recommendation of 35 students as optimal class size, it means approximately only 3 classrooms (106/35 = 3) will be utilized out of the 24 available classrooms. Regarding the number of teachers, 19 against 106 students, it implies there will be 6 students (106/19 = 6) per teacher. Table 1 shows current enrolment according to number of students per class.

Table 1: Summary of Enrolment, Teachers and Classrooms in ATAP Staff School

SN	Class room	Students	Teachers	Classroom
1	Nursery one	11		
2	Nursery two	10		
3	Primary one	16		
4	Primary two	6		
5	Primary three	12		
6	Primary four	6		
7	Primary five	6		
8	JSS one	11		
9	JSS two	6		
10	JSS three	8		
11	SS one	9		
12	SS two	2		
13	SS three	3		
TOTAL		106	19	35

Source: ATAP Model Staff School (2022)

The analysis, summarized in table1 reveals that after four years in operation, majority of the classes are having less than 10 students enrolled, while more than 10 of the classrooms have never been put to use at all. This trend suggests that both the material and human resources assigned to the school are not maximally utilized

II. STATEMENT OF THE PROBLEM

Current trends in Abubakar Tatari Ali Polytechnic Model Staff School suggest that available human and material resources were grossly under-utilised. Records show that media, banners and words of mouth have been employed in the past to advertise the school and its activities in order to enhance enrolment (ATAP Model Staff School, 2021). However, very little or no efforts have been focused on the fact that school climate is one of the significant potential factors that are associated with school enrolment growth, (Amri & Shawn, 2015). In view of this gap, it was thought worthwhile to undertake this study with a view to establish the effect of school climate on enrolment growth in Abubakar Tatari Ali Polytechnic Model Staff School. This study assumes that achieving optimum enrolment growth will ensure development of the school to its full potentials and therefore enable it to utilize the available human and material resources maximally.

Objective Of The Study

This study was undertaken to determine the effect of school climate factors on pupil enrolment growth in Abubakar Tatari Ali polytechnic model staff school, Bauchi

Hypothesis

H_o: School climate factors do not have significant effect on students' enrolment growth in Abubakar Tatari Ali polytechnic model staff school, Bauchi

H_a: School climate factors have significant impact on students' enrolment growth in Abubakar Tatari Ali polytechnic model staff school, Bauchi

III. METHODOLOGY

The study aimed to determine if there exists a significant relationship between school climate and school enrolment in Abubakar Tatari Ali Polytechnic Model School. Descriptive survey and causal research designs were adopted in the study. These designs were suitable because the study was about description of an existing situation and prediction of cause-effect. The study was carried out in Abubakar Tatari Ali polytechnic practicing school, Bauchi. The school is situated in Abubakar Tatari Ali Polytechnic, main campus, Wuntin Dada, Bauchi. The target population of the study comprised all the 19 teachers, parents in the host community and 39 secondary school students of Abubakar Tatari Ali polytechnic practicing school, Bauchi. A sample of 148 respondents participated in the study. The sample size determination was guided by Yamane, Taro. (1967) table for sample size. The participants comprised 90 parents selected through random sampling technique, 19 teachers and 39 students, selected through census sampling. Census technique was used because virtually the entire population of teachers and secondary school students would

have to be sampled to achieve a desirable level of precision. Structured questionnaires with five scales were utilized for data collection in the study. The quantitative data were analyzed through descriptive statistics (mean and standard deviation); and inferential statistics in the form of regression analysis. The hypotheses were tested at 0.05 level of significance with help of Statistical Package for the Social Sciences (SPSS).

IV. ANALYSIS AND DISCUSSION

The objective of this research was to establish the extent to which school climate factors affect pupils' enrolment growth in Abubakar Tatari Ali polytechnic model staff school, Bauchi. In order to achieve this objective, respondents' opinions were sought on the effect the following school climate factors on pupils' enrolment: Principals' leadership, institutional environment, teaching and learning, school-community relationship and school fees. The responses were measured based on Likert scale of 5 points, (5-Strongly Agree - SA, 4-agree - A, 3-Neutral – N, 2-Disgree - D, 1- Strongly Disagree - SD). The results are presented in Table 1.

Table 1: Response on Effect of School Climate Factors on Students' Enrolment

S/N	Climate Dimensions	Response							
		5 SA	4 A	3 N	2 D	1 SD	**Mean**	**SD**	Remark
1	Principals' Leadership	94(64%)	38(26%)	4(3%)	9(6%)	3(2%)	**43.67**	**38.75**	High Extent
2	Sch. Environment	73(49%)	31(21%)	6(4%)	28(19%)	10(7%)	**38.20**	**26.60**	High Extent
3	Teaching/Learning	90(61%)	40(27%)	0(0%)	8(5%)	10(7%)	**42.40**	**37.02**	High Extent
4	Relationships	106(72%)	28(19%)	4(3%)	10(7%)	0(0%)	**44.93**	**44.03**	High Extent
5	School Fees	72(49%)	36(24%)	2(1%)	20(14%)	18(12%)	**37.87**	**26.59**	High Extent

Source: Research data (2022)

According to the analysis in Table 1, school-community relationships, 134(91%) of the respondents, (M =44.93, SD = 44.03) was the most important determinant of students' enrolment growth in ATAP staff model school. Regarding principal's leadership, the table indicated that about 132(90%) of the respondents (M = 43.67, SD = 38.75), agreed that principal's leadership was a vital determinant of students' enrolment growth. The analysis as well showed that 130(88%) of the respondents (M = 42.40, SD = 37.02), opined that teaching/learning was a critical factor determining students' enrolment growth in ATAP staff model school. School fees, with 108(73%) respondents in agreement, (M = 37.87, SD = 26.59) was also portrayed as an important determinant of students' enrolment growth in ATAP staff model school. Finally, on the school environment, also majority, 101(70%) of the respondents were in agreement that it was one of the determinant of students' enrolment growth in ATAP staff model school.

Given the foregoing, these study findings suggest that, to some extent, school climate factors play a significant role in determining the students' enrolment growth. (Clifford, Menon, Condon, & Hornung, 2012; Gangi, 2010; Haggerty, Elgin, & Woodley, 2010). The findings of this study was also in congruent with empirical evidence many literatures have highlighted institutional environment, leadership, teaching-learning, school-community relations and tuition price as that subjective experiences in schools. (Blum, McNeely, & Rinehart, 2002; Goodenow & Grady, 1993; V. E. Lee, Smith, Perry, & Smylie, 1999; Osterman, 2000; Wentzel, 1997)

Regression Analysis for Effect of School Climate Factors on Students' Enrolment

The study stated the null and alternative hypothesis thus:

i. H_o: School climate factors do not have significant impact on students' enrolment growth in Abubakar Tatari Ali polytechnic model staff school, Bauchi

ii. H_a: School climate factors have significant impact on students' enrolment growth in Abubakar Tatari Ali polytechnic model staff school, Bauchi

Simple linear regression analysis was used to test the hypothesis at alpha = 0.05 level of significance. Tables 2, 3, and 4 depict the results of the analysis.

Table 2: Regression Model Summary for School Climate and Enrolment Growth

Model Summary				
Model	R	R Square	Adjusted R Square	p-value
1	.312	.098	.085	.000
a. Predictor: (Constant), School Climate				
b. Dependent Variable: Students' enrolment				

Table 2, shows the *r* value, (r = .312); suggest that there exists a moderate positive correlation between School Climate and Students' enrolment. The R- Square ($\boldsymbol{R^2}$= .098) shows proportion of variation in students' enrolment accounted for by school climate factors. The analysis suggests that school climate factors explained 9.8% variation in students' enrolment growth (i.e. .098x100). This variation size indicates that school climate factors have some impact on students' enrolment growth, (Cohen, 1994). Furthermore, Analysis of Variance (ANOVA) was used to test the significance of the model in table 3.

Table 3: ANOVA for School Climate Factors and Students' Enrolment Growth

Model		sum of squares	Def.	mean square	F	Sig.
1	Regression	2052.52	1	205.52	40.076	**.000**
	Residual	19104.02	362	51.217		
	Total	21156.54	363			
a. Dependent Variable: students' enrolment						
b. Predictor (Constant): school climate factors						

Table 3 reveals whether or not this model (with school climate factors as the predictor variable) is a significant predictor of variation in students' enrolment. The analysis indicates ANOVA results as F=40.076 with 1 and 363 degrees of freedom and F being significant at $p < .05$. This result presumes that the regression model significantly predicts the degree to which school climate factors affect students' enrolment growth. This regression equation may be summarised thus: F (1,363) = 40.08, p =.000 < .05).

Finally, the regression coefficient tells us how the predictor variable (*school climate factors*) contributes to the Model.

Table 4: Regression Coefficient for School Climate Factors and Students' Enrolment Growth

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	**Std. Error**	**Beta**		
1	a. (Constant)	47.71	1.806		26.945	.000
	Climate Factors	.74	.113	.311	6.330	.000
b. Dependent Variable: Students' Enrolment Growth						

Table 4 shows the results of the regression coefficient. These results provide information regarding the variation in the value of the dependent variable (students' enrolment growth) corresponding to one unit of variation in the predictor variable (climate factors). The analysis table 4 indicates the constant = 47.71, represent the y-intercept with a slope of 0.74. Given the regression equation Y=α+βx1, this output can be explained thus:

Students' enrolment (Y) = 47.71 + .74, school climate factors (X) = .74. Where Y is the estimated value of the dependent variable, and X is the value of the independent variable. The foregoing regression coefficient results suggests that an increase by a unit (1) in school climate factors leads to increase in students' enrolment growth by .74 units. This result reveals that β=0.722, t(26.95) = 6.33, $p < .05$).

V. FINDINGS OF REGRESSION ANALYSIS

Simple linear regression carried out (α=.05), indicated that school climate factors explained significant proportion of variabilty in students' enrolment growth, $\boldsymbol{R^2}$ = .097, F (1,373) = 40.08, p<.05). In other words, school climate factors significantly predicted improvement of students' enrolment growth, β =.722, t(26.95) = 6.330, $p < .05$. Based on this evidence, the null hypothesis, Ho: School climate factors do not have significant impact on students' enrolment growth in Abubakar Tatari Ali polytechnic model staff school, Bauchi was rejected. Consequently, the alternative hypothesis, H_a: School climate factors have significant impact on students' enrolment growth in Abubakar Tatari Ali polytechnic model staff school, Bauchi was accepted.

VI. CONCLUSION

The study revealed that enhanced school climate factors lead to corresponding improvement in students' enrolment growth. Based on the findings of this study therefore, it was concluded that, principal's leadership, institutional environment, teaching/learning, school-community relations and tuition price have significant impact on students' enrolment growth in Abubakar Tatari Ali Polytechnic Model Staff School, Bauchi

VII. RECOMMENDATION

Based on the study findings it was recommended that the management of Abubakar Tatari Ali Polytechnic Model Staff School should innovate institutional environment, leadership, teaching and learning, school-community relation and school fees. The principal of the school should establish rapport with the leaders of the communities surrounding the school. For instance, the community could be encouraged to utilize the School Hall for meetings. Members of the communities could be invited to witness annual events such as Prize-Giving and Cultural Days organized by the school's management. Also, the school could advertise its academic standards by airing through the radio and television such activities as debates and quizzes held in the school. It is recommended that the school fees should be moderate and affordable. Finally, the study recommended that, in a place where there is major road to cross, the school should endeavour to design a Zebra Crossing for the safety of children coming to the school.

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