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Teacher and Student Related Variables: Predicting Academic Achievement Among the students of Kittur Rani Channamma Residential Schools

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Abstract:

This study centers on to study the difference in the contribution of predictor variables (Brain Dominance of Style of Learning and Thinking, Adjustment, Learning Environment by Teachers and Academic Anxiety) in predicating the criterion variable (Academic Achievement) among the students of Kittur Rani Channamma residential schools in Karnataka State. The Descriptive Survey Method was applied in the present study. A random sample of Five Hundred and Five Students (N=505) of IX standard studying in 12 Kittur Rani Channamma Residential Schools from Tumkur, Hassan, Haveri and Vijayanagara Districts. Findings reveals that, The Learning Environment by Teachers(X5) is the First Contributor/predictor followed by Academic Anxiety(X6), Brain Dominance (Integrated Hemisphere) of Style of Learning and Thinking(X3) and Academic Anxiety(X6) on Academic Achievement of Secondary School Girls. The results of the study will have far-reaching use for teachers in general and guidance counsellors. The results of the study would also enable to know the factors that affect or help the Academic Achievement of students.

INTRODUCTION:

Schools, Colleges, and Universities have no worth without students. Students are most essential asset to any educational institution. The social and economic development of the country is directly linked to student Academic Achievement. The students' Academic Achievement plays an important role in producing the best quality graduates who will become great leaders and manpower for the country, thus responsible for the country's economic and social development (Aliet.al, 2009). Student Academic Achievement measurement has received considerable attention in previous researches; it is the challenging aspect of students' Academic Achievement which is affected due to teacher and student factors. These factors strong influence on the student Academic Achievement.

Even though there are many teacher and student related factors which may influence an individual's Academic Achievement, in this study it is decided to find out relationship of five factors, namely teachers' gender and learning environment by teachers, Adjustment, Academic Anxiety and Style of Learning and Thinking of students of Kittur Rani Channamma Residential Schools with their Academic Achievement.

SIGNIFICANCE OF THE STUDY:

Number of researches have been conducted to see the relationship between learning environment by teachers with Academic Achievement, style of learning and thinking and Academic Achievement, Adjustment and Academic Achievement And Anxiety and Academic Achievement. However, there are no researches related to Kittur Rani Channamma Residential Schools. All the students studying in Kittur Rani Channamma Residential Schools are provided with free Education, food, accommodation, uniforms, textbooks, study materials and medical facilities.

- The residential type of school system tends to improve students' Academic Achievement. The Residential school system prepares students academically, physically and mentally to develop the good qualities of mind, body and character by using high discipline. The impetus for the present study came from the belief that schools vary considerably in their functions and set up.
- Kittur Rani Channamma Residential Schools are residential in nature and the atmosphere in these schools may influence positively the students' Adjustment, educational Anxiety and Style of Learning and Thinking and the Academic Achievement. Complex curriculum and heavy loads of books and restricted movements, sometimes create high pressure and Anxiety in the students, which in turn may affect their Academic Achievement.

There is a lack of sufficient or Nil research in the case of Kittur Rani Channamma Residential Schools as to what teacher and student related variables correlates/affect Academic Achievement and the researcher would therefore like to establish the contribution of predictor variables viz., learning environment by teachers, Adjustment, Educational Anxiety and Style of Learning and Thinking in predicting the criterion variable (Academic Achievement) of Kittur Rani Channamma Residential School Students.

This is precisely the reason why the present study is undertaken.

- This Study will provide some insights about the Teacher and student related factors influencing the Academic Achievement of the students.
- The results of the study will have far- reaching consequences as they are very helpful for teachers in general and guidance/educational counselors in particular.
- The results of the study will also enable them to know the factors that affect their Academic Achievement or help the Academic Achievement of students.
- The recommendations of the study may be helpful to the policy makers in the direction of evolving new policies.

One particular phase of applied psychology that is of major importance to all students, regardless of their special interest is studying efficiency. Too frequently students finish their schooling without having learned how to use their study time well and how to adjust to the school climate and how to manage the anxiety. Completing one's assignment in a minimum amount of time with a high degree of success, permitting sufficient time for leisure reading, sports, relaxation and various extra- curricular activities are one important mark of a successful Adjustment.

Since Kittur Rani Channamma Residential Schools are unique in its approach with residential facilities, but it is natural that these schools have to improve the Academic Achievement of students by creating a good learning environment by teachers, educating to manage the anxiety and to make the students to have proper adjustment and to promote them to adopt the proper style of learning and thinking.

Academic performance, which is measured by the examination results, is one of the major goals of a school. Hoyle (1986) argued that schools are established with the aim of imparting knowledge and skills to those who go through them and behind all this is the idea of enhancing good Academic Achievement. The Main objectives of the Kittur Rani Channamma Residential Schools are to provide quality education along with free boarding and lodging facilities, Promoting Intellectual, Physical, Mental and spiritual aspects of the students and helping the students to engage in studies with mutual co-ordination and harmony are keen on quality assurance and maintenance of standards.

This is precisely the reason why the present study is proposed to undertake to find out the Academic Achievement and the researcher would therefore like to establish the contribution of predictor variables viz. Learning Environment by Teachers, Adjustment, Educational Anxiety and Brain Dominance of Style of Learning and Thinking in predicting the criterion variable (Academic Achievement) of Kittur Rani Channamma Residential School Students. The results of the study will have far- reaching use for teachers in general and guidance counsellors. The results of the study would also enable to know the factors that affect or help the Academic Achievement of students.

SCOPE OF THE STUDY:

This study centers on relationship between Academic Achievement with Learning Environment by Teachers, Adjustment, Academic Anxiety and Brain Dominance of Style of Learning and Thinking among the students of Kittur Rani Channamma residential schools in Karnataka State. It is aimed at all Kittur Rani Channamma residential school students in Karnataka State, but due to time, money and other factors, study limited to only Twelve schools from Bangalore, Mysore, Gulbarga and Belgaum Division of Karnataka State. The content scope covered Teacher and Student factors such as a Learning Environment by Teachers, Adjustment, Academic Anxiety and Brain Dominance of Style of Learning and Thinking which Correlates/affect Academic Achievement of IX Standard Students Studying in Kittur Rani Channamma residential schools.

VARIABLES:

- Learning Environment by Teachers,
- Adjustment,
- Academic Anxiety
- Brain Dominance of Style of Learning and Thinking
- Academic Achievement

OBJECTIVE OF THE STUDY:

- To study the difference in the contribution of predictor variables (Brain Dominance of Style of Learning and Thinking, Adjustment, Learning Environment by Teachers and

Academic Anxiety) in predicating the criterion variable (Academic Achievement) of Secondary School girls.

HYPOTHESIS OF THE STUDY:

- There is no significant difference in the contribution of predictor variables Brain Dominance of Style of Learning and Thinking, Adjustment, Learning Environment by Teachers and Academic Anxiety) in predicating the criterion variable (Academic Achievement) of Secondary School girls.

RESEARCH METHODOLOGY:

The study employs descriptive research of survey type, to investigate the Relationship between Teacher and Student Related Variables with Academic Achievement in Kittur Rani Channamma Residential Schools. The Descriptive Survey Method was applied in the present study. It identifies the current status of the research study. The plan adopted in the study is Correlation Method. The plan did not entail any experiment or the manipulation of any independent variable.

POPULATION OF THE STUDY:

The students studying in various secondary schools in the academic year 2022–2023 of standard IX in Kittur Rani Channamma Residential Schools were considered as a population of this study. According to the Department of Public Instruction of Karnataka, there are altogether 37494 Students were Studying in 157 Kittur Rani Channamma Residential Schools Karnataka State. Researcher Selected Randomly one district from Bangaluru, Mysuru, Belagavi and Gulbarga Division of Karnataka State. Out of 37494 students 7514 students were studying in 9th standard during the academic year 2022-23.

SAMPLING:

In the present study Random Sampling Technique was adopted by the researcher. The Sample for the present study consists of the students of IX standard studying in Kittur Rani

Channamma Residential Schools in Tumkur, Hassan, Haveri and Vijayanagara Districts. 03 schools in each district randomly selected, totally 12 schools were selected for research.

Selection of Schools and Students:

A random sample of Five Hundred and Five Students (N=505) of IX standard studying in 12 Kittur Rani Channamma Residential Schools from Tumkur, Hassan, Haveri and Vijayanagara Districts.

TOOLS USED FOR THE STUDY:

The aim of this study was to find out the relationship between Academic Achievement with Adjustment, Learning Environment by Teachers, Academic Anxiety and Brain Dominance of Style of Learning and Thinking Among Secondary School Girls. Since standardized tests are used for Brain Dominance of Style of Learning and Thinking, Adjustment factors and the investigator construct his own tools for Learning Environment by Teachers and Academic Achievement; the investigator made a careful selection of the available standardized tools which could be validly applied to the sample of students selected for study. All the tools selected were those that were developed for the use with pupils of secondary classes. Care was taken to assure that the tools had accepted levels of validity and reliability.

DATA COLLECTION PROCESS:

The study was planned to be conducted with a total of 581 ninth-grade students in 16 Secondary schools of in the Mysore District of Karnataka State at the end of 2022-2023 Academic year. Student engagement in the research was voluntary. Permission was granted from the Director, KRIES, Karnataka in order to conduct the study. Later researcher conducted the data collection processes and visited all the 16 schools and distributed the tools to the students in each school. After receiving the filled tools answers, some of the forms were eliminated because some of the students who participated in the study left some items blank while filling out the forms, and some of the students' answers were found to be

inconsistent during the control of the tools. Following the elimination, a total of 505 student forms were found to be valid.

STATISTICAL TECHNIQUES:

The hypotheses may be tested by analyzing data by applying appropriate descriptive and inferential statistics.

- **Co-efficient of Correlation:** This statistical technique is employed to verify hypotheses pertaining to correlation studies. It is used to estimate the significance of the relationship between the two variables.
- **Regression:** A statistical procedure in which more than one predictor variable is correlated with a target variable as well as with the other predictor variables in order to form a linear model using a weighted sum of the predictor variables to predict values of the target variable.

ANALYSIS AND INTERPRETATION OF THE DATA:

Table 1: Regression co-efficient (Model Summary)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	0.801a	0.641	0.637	8.83269	148.215	0.000b

The coefficient of multiple determination of R^2 is 0.774. It can be therefore, be said that nearly 64.1 percent of the variation in Academic Achievement of secondary school girls accounted for whatever is measured by Brain Dominance (Right Hemisphere) of Style of Learning and Thinking(X1), Brain Dominance (Left Hemisphere) of Style of Learning and Thinking(X2), Brain Dominance (Integrated) Hemisphere) of Style of Learning and Thinking(X3), Adjustment(X4), Learning Environment by Teachers(X5) and Academic Anxiety(X6) taken together. The SEest for the regression equation is 8.83269. This means that each time the regression equation for the sample is used to predict an Academic

Achievement; the chances are predicted Academic Achievement will not miss the actual Academic Achievement of secondary school Girls by more than ± 8.83269 .

The effect of Brain Dominance (Right Hemisphere) of Style of Learning and Thinking(X1), Brain Dominance (Left Hemisphere) of Style of Learning and Thinking(X2), Brain Dominance (Integrated) Hemisphere) of Style of Learning and Thinking(X3), Adjustment(X4), Learning Environment by Teachers(X5) and Academic Anxiety(X6) was found to be significant ($F=148.215$, $p<0.01$) on Academic Achievement of Secondary School Girls at 0.01 level of significance. Hence, the null hypothesis is rejected and alternative hypothesis is accepted. It means that, Brain Dominance (Right Hemisphere) of Style of Learning and Thinking(X1), Brain Dominance (Left Hemisphere) of Style of Learning and Thinking(X2), Brain Dominance (Integrated) Hemisphere) of Style of Learning and Thinking(X3), Adjustment(X4), Learning Environment by Teachers(X5) and Academic Anxiety(X6) are the significant Predictors of Academic Achievement of secondary school Girls.

Table 3: Multiple linear regressions

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	59.299	16.261		3.647	0.000
Brain Dominance (Right Hemisphere) of Style of Learning and Thinking	-0.310	0.320	-0.175	-0.968	0.334
Brain Dominance (Left Hemisphere) of Style of Learning and Thinking	-0.302	0.320	-0.169	-0.943	0.346
Brain Dominance (Integrated) Hemisphere) of Style of Learning and Thinking	-0.616	0.323	-0.315	-1.907	0.057
Adjustment	0.518	0.059	0.322	8.833	0.000

Learning Environment by Teachers	0.209	0.015	0.487	13.897	0.000
Academic Anxiety	-0.047	0.034	-0.045	-1.372	0.171

The effect of Adjustment(X4) and Learning Environment by Teachers(X5) was found to be significant on Academic Achievement of secondary school girls at 0.01 level of significance. It means that, Adjustment(X4) and Learning Environment by Teachers(X5) are significant predictors of Academic Achievement of secondary school girls.

Table 4: Relative contributions of predictor variables on criterion variable (Academic Achievement) of secondary school Girls.

Predictor Variables	β	r	$\beta \times r$	% Of contribution
Brain Dominance (Right Hemisphere) of Style of Learning and Thinking	-0.175	0.093	-0.01628	-1.6275
Brain Dominance (Left Hemisphere) of Style of Learning and Thinking	-0.169	0.184	-0.0311	-3.1096
Brain Dominance (Integrated Hemisphere) of Style of Learning and Thinking	-0.315	-0.302	0.09513	9.513
Adjustment	0.322	0.665	0.21413	21.413
Learning Environment by Teachers	0.487	0.735	0.357945	35.7945
Academic Anxiety	-0.045	-0.470	0.02115	2.115
Total			0.640984	64.0984

The total contribution of all the independent variables on Academic Achievement of Secondary School girls was found to be 64.09%, in which the contribution of Brain Dominance (Right Hemisphere) of Style of Learning and Thinking(X1)= -1.6275%, Brain Dominance (Left Hemisphere) of Style of Learning and Thinking(X2)= -3.1096%, Brain Dominance (Integrated Hemisphere) of Style of Learning and Thinking(X3)= 9.513%, Adjustment(X4)= 21.413%, Learning Environment by Teachers(X5)= 35.7945% and

Academic Anxiety(X6)= 2.115%. Therefore, we conclude that, The Learning Environment by Teachers(X5) is the First Contributor/predictor followed by Academic Anxiety(X6), Brain Dominance (Integrated) Hemisphere) of Style of Learning and Thinking(X3) and Academic Anxiety(X6) on Academic Achievement of Secondary School Girls.

The regression equation developed for the contribution of predictor variables (Brain Dominance (Right Hemisphere) of Style of Learning and Thinking(X1), Brain Dominance (Left Hemisphere) of Style of Learning and Thinking(X2), Brain Dominance (Integrated) Hemisphere) of Style of Learning and Thinking(X3), Adjustment(X4), Learning Environment by Teachers(X5) and Academic Anxiety(X6)) in predicating the criterion variable (Academic Achievement) among Secondary School Girls(N=505). i.e.,

$$Y = 59.299 - 0.175(X1) - 0.169(X2) - 0.315(X3) + 0.3220(X4) + 0.487(X5) - 0.045(X6).$$

MAJOR FINDINGS OF THE DATA:

- Brain Dominance (Right Hemisphere) of Style of Learning and Thinking(X1), Brain Dominance (Left Hemisphere) of Style of Learning and Thinking(X2), Brain Dominance (Integrated) Hemisphere) of Style of Learning and Thinking(X3), Adjustment(X4), Learning Environment by Teachers(X5) and Academic Anxiety(X6) are the significant Predictors of Academic Achievement of secondary school Girls.
- Adjustment(X4) and Learning Environment by Teachers(X5) are significant predictors of Academic Achievement of secondary school girls.
- Brain Dominance (Right Hemisphere) of Style of Learning and Thinking(X1), Brain Dominance (Left Hemisphere) of Style of Learning and Thinking(X2), Brain Dominance (Integrated) Hemisphere) of Style of Learning and Thinking(X3) and Academic Anxiety(X6) are Not significant predictors of Academic Achievement of secondary school girls.
- The Learning Environment by Teachers(X5) is the First Contributor/predictor followed by Academic Anxiety(X6), Brain Dominance (Integrated) Hemisphere) of Style of Learning and Thinking(X3) and Academic Anxiety(X6) on Academic Achievement of Secondary School Girls.

IMPLICATIONS:

- This study will be helpful for the educational institution as they should become sensitive to understand the needs of the individual learner and more towards "brain-compatible" approaches to learning.
- This study will be helpful to the educational institution in providing a learning environment that reduces academic anxiety and coping problems that affect the learning and thinking style.
- Curricula, programs, textbooks, teaching methodology, etc. all should be modeled so as to be able to use the energies of the students in the right direction.
- The study found that students who are well suited to the learning environment perform well in academic settings. As such, the study helps students to know the importance of adaptation and plan accordingly.
- This study helps parents to know the influence of students' brain dominance in learning and thinking style and provide them with the necessary requirements to perform better in school.
- This study helps parents help students motivate themselves and plan for reducing academic anxiety because it has a negative impact on academic performance.

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