Factors Affecting Students’ Academic Performance:  
A case study in Agartala Municipal Council Area

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Abstract: Number of empirical studies has been done to determine the factors affecting school students’ performance in the elementary level. The basic objective of the present study is that students’ performance in annual examination is associated with students’ attendance in the class, family income, mother’s and father’s education, teacher-student ratio, presence of trained teacher in school, sex of the student, and distance of schools. The study is based on primary data. The required information was collected through random sample survey of the student in the government and government aided schools and their households. By applying regression analysis it was found that factors like students’ attendance, Mother’s education & presence of trained teacher in the school have a positive impact of students’ academic performance.

1. Introduction:

The main objectives of education, as S.K. Paul et al. held are to bring “changes not only in the amount of knowledge but also for achieving abilities to do something, to think and to acquire habits, skills and attitudes which characterize on individual who is socially accepted and adjusted”. Keeping these in view SARVA SHIKSHA ABHIYAN was launched in 2001 with the objective of implementing scheme of ensuring Education to children up to eleven years of age by 2007 and up to fourteen years of age by 2010.

Since interest in schooling as E.A.Hanushek (1996) held comes from a policy perspective which depends on several sources, schooling is perceived as an important determinant of individual productivity and learning. Thus schooling is considered as an instrument for affecting both the national economy and the individual income and earnings. And hence schooling may be considered as an important tool for economic growth of the nation along with functioning of democratic norms which justify for an important component of public investment.

However, student attendance in this context also is a major concern to the educators. Brauer held the view that absence on the part of the student “creates a dead, tiresome, unpleasant classroom environment that makes uncomfortable and the professor (teacher) irritates”.

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Therefore, good attendance and prompt arrival to school and or in class is expected to achieve the aims and objectives as mentioned above. Poor attendance not only hinders academic achievement but also promotes a poorly educated society and thus leads to many negative social issues. Some educational experts argue that students who have not acquired an association between academics and life experiences do not feel that good school attendance is relevant to their future (Collins, 1982).

Student with high self-efficacy seem to be more successful in maintaining consistent attendance (Bouffard-Bouchard, 1990). A domino effect results which starts with poor attendance, proceeds to low achievement, increases the dropout rate, and amplifies a host of social problems.

In a recent paper, S.T. Hijazi & M.M.Raza Naqvi (2006) held the view that student’s performance is “associated with students’ profile like his attitude towards class attendance, time allocation of studies, parent’s level of income, mother’s age and mother’s education”. Similarly a good number of scholars conducted a number of studies on student’s performance in the context of his profile like race, gender, sex (Hansen, Jeo B 2000), economic circumstances and the risk of becoming a dropout that proved to be positive (Goldman, N., Hancy, W., and Koffler, S., 1998, Pallas, A., Natriello, G., Mcdill, E, 1989, Levin, H., 1986) B.A.Chansarkar and A. Mishaeloudis (2001)conducted the study on the effects of age, qualification, distance from learning place etc. on student performance. Y.B. Walters, Kola Soyibo (1998) held the view that “high school students’ level of performance is with statistically significant differences, linked to their gender grade level, school location, school type and socio-economic background (SEB)”

2. The objective of the Study:

➢ The basic objective of the study is to identify the factors which are responsible for students’ academic performance in elementary school level.

3. Hypothesis:

The hypothesis of the study is

\[ H_0 \] : Student academic result in the school is significantly related to students’ attendance in the class, Family Income of the student, Student’s mother education, Father’s education of the student, Teacher-Student ratio, Presence of trained teacher in school, Sex of the student, and Distance of schools from the student’s house.

4. Methodology:

Statistical Techniques including regression analysis were used as a methodology. The Regression model is tested by new integration of different variables like students’ attendance in the class, Family Income of the student, Student’s mother education, Father’s education of the student, Teacher-Student ratio, Presence of trained teacher in school, sex of the student, and Distance of schools from the student’s house.
It may be possible that some of the factors that have received significant attention in the other studies will prove to be weakly related or insignificant in this study.

This study is based in primary data & the information was collected from schools & household of the surveyed students.

4.1. Sample Selection Criteria:
This study was conducted in the schools of Agartala Municipal Council Area. As per the information of Sarva Shiksha Abhiyan, Rajya Mission, Office of the State Project Director, Agartala, at present there are 115 numbers of schools in Agartala Municipal Council Area. Among these 80 Nos. are managed by Education Department, Government of Tripura, 23 nos. schools are private aided and rest 11 nos. are Private un-aided.

Recently Agartala Municipal Council (AMC) Area has been extended. The new extended AMC area is less developed compared to old AMC area. So in this study schools were selected on the basis of Stratified Random Sampling Method. For the selection of the schools, the whole AMC area was classified in to two strata.

Strata-I: It consists of 50 Nos. of schools situated in newly extended AMC area.

Strata-II; It consists of 65 Nos. of schools situated in old AMC area.

For this study 12 Nos. of schools (i.e. in total 24 Nos. of Schools) were selected from each of the strata on the basis of Simple Random Sampling Method. A sample of 332 students was taken from these 24 selected schools also by applying Simple Random Sampling Method.

4.2. Data Collection procedure:
To collect various quantitative information regarding student strength, faculty position, student attendance and school infrastructure, a pre-scheduled questionnaire was canvassed. Besides this, Focus Group Discussion (FGD) was followed to capture the different qualitative magnitude of students’ attendance.

For household level survey, the most knowledgeable adult household member (who may be the head of the household) and student of the house were interviewed.

5. Overview of Data Collected:
In this study 332 students were surveyed. Family profiles were made by doing household level survey of these selected students. Out of these 332 surveyed students 42.77% were boys and the rest were girls.
Social Status of the Surveyed Students

- SC: 34.34%
- ST: 8.13%
- OBC: 22.59%
- RM: 3.92%
- GEN: 31.02%

It also reveals from the study that, among these surveyed students 34.34% belongs to SC community, whereas 31.02% belongs to GEN. The ST, OBC and RM students are 3.92%, 22.59% and 8.13% respectively.

Among these surveyed students 19.88% have got below 30% marks in their last Annual Examination.

23.80% students have scored 30 to 44% marks whereas 15.36% were able to score 45 to 59% score. Around 19% students have got 60 to 79% marks whereas 21.68% students have scored above 80% marks in their last annual examination.

6. Regression Model:

For the similar kind of study, linear regression model was used by a number of scholars. Eskew and Faley (1988), Miller & Westmoreland (1998) used linear regression model for establishing relation between students’ performance and number of explanatory factors. Kruck and Lending (2003) developed a multivariable regression model for finding out relation with the use of five independent variables to predict performance and hence to analyse grade in a introductory information science course. Garcia and Jenkins (2003) used similar multiple regression model to establish relation between performance of a degree program with 20 independent variables.

Following the models proposed by Eskew and Faley (1988) & others analyzed above, an attempt has been taken here to find out the relation between the performance of the student with 8 independent variables and the proposed regression model was as

\[ Y = b_1 + b_2 \text{AS} + b_3 \text{FI} + b_4 \text{ME} + b_5 \text{FE} + b_6 \text{TR} + b_7 \text{TT} + b_8 \text{SS} + b_9 \text{DS} + U \]

Where, \(Y\) is the dependent variable and it represents academic performance of the students and \(b_1, b_2, b_3, b_4, b_5, b_6, b_7, b_8\) and \(b_9\) are the coefficients. \(U\) represents the disturbance term of the model.

The Exogenous variables of the model are-

- **AS**: Attendance of the Students. It represents in how many classes, student attended in last academic year and it shows the seriousness and attitude towards studies.
- **FI**: Family Income of the Student. The family can provide better facilities to the student if the family income is high.
- **ME**: Mother’s education. If the mothers are educated, they can contribute to improve the performance of the students.
- **FE**: Father’s education. An educated father can understood the nature of education for his child future.
Teacher-Student Ratio. This ratio indicates that whether no. of teachers are sufficient or not.

Trained Teacher in the schools. If the teacher is trained, he can teach the student better than an untrained teacher.

Sex of the student, Dummy as Girl=1, Boy=0. Since sex difference is found in academic performance of the students.

Distance of Schools from the students’ house. If the school is near the resident of the student, he/she can easily attend the school regularly.

**Expected Relations of Independent variables**

i) It is assumed that attendance of the student in the class is positively related to the academic performance of the student. A high attendance student is more serious in studies than the low attendance student.

ii) Family income of the student is positively related to the Student academic performance.

iii) Academic performance of the student is positively related to the student’s mother education.

iv) Father’s education is positively associated with the performance of the student.

v) Teacher-Student Ratio is positively related to the performance of the student.

vi) Presence of trained teacher in the schools is positively related to the students’ performance.

vii) Sex difference is usually found in academic performance of the student.

viii) Distance of the school is positively related to the academic performance of the student.

**7. Data Analysis:**

**7.1 Results of Regression Analysis**

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t Stat.</th>
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<tr>
<td>Intercept</td>
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<tr>
<td>Percentage of Attendance</td>
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<td>.044</td>
<td>.657</td>
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<td>Family Income</td>
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<td>.000</td>
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<td>Mother’s Education</td>
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<td>.170</td>
<td>3.051</td>
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<tr>
<td>Father’s Education</td>
<td>.330</td>
<td>.614</td>
<td>.029</td>
<td>.537</td>
</tr>
<tr>
<td>Teacher Student Ratio</td>
<td>24.492</td>
<td>30.048</td>
<td>.035</td>
<td>.815</td>
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<td>Presence of trained teacher in school</td>
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<td>.042</td>
<td>.099</td>
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<td>Sex, Male-1, Female-2 (girl-1, boys-0)</td>
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<td>Distance of School, In Km</td>
<td>2.318</td>
<td>2.302</td>
<td>.041</td>
<td>1.007</td>
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7.2 Discussion

It reveals from the study that the value of $R^2$ is 0.52. It means that 8 of the variables together can explain 52% of the model and rest 48% may be explained by the other factors not mentioned in this regression model.

It is found from the table that standardized coefficient of percentage of attendance is 0.66 and the t value is 15.64, which is significant at 99% confidence interval. It implies that impact of student attendance on his/her performance is positive & it shows that if there be 1 percent increase in student attendance, the academic performance of the student will be increase by 0.65 percent.

It was expected that that relationship between students’ academic performance and the student family income is positive. Because money can buy all comforts that student need. But the result could not prove these relation, because coefficient value is -0.003 and negative insignificant t-value -0.069 shows that there is an inverse relation.

It was assumed that mother’s education is positively related to the academic performance of the student. An educated mother can take better care for his child and the result of the study also proves the relation. The coefficient value is 0.170 and positive significant t-value 3.051. It shows there is a positive relation between students’ academic performance and students’ mother’s education and the student is doing better whose mother is educated.

It was expected that students’ academic performance is positively related to student’s father’s education. An educated father can guide his child to choose the better field of studies. The result of the study shows that the coefficient value is 0.029 and there is positive insignificant t value 0.537. It implies that the relation is positive.

It is believed that relationship between dependent variable and the teacher-student ratio is positive. If the teacher-student ratio is low, teacher can take better care of all students in the class. The result of the study shows that there is a positive relationship between teacher-student ratio and the performance of the
student. The coefficient value is found 0.035 & t value is 0.815 which is not however statistically significant.

It was assumed that the relation between dependent variable and the presence of trained teacher in the school is positive. As trained teacher can teach the student better than an untrained teacher. The coefficient value is 0.099 and significant t-value 2.368 shows that there is a positive relation.

It was believed that sex of the student has an influence on their academic performance and it is also assumed that girls are showing the better performance than the boys. But the result shows reverse relation, because negative coefficient value -0.010 and negative insignificant t-value -0.240 show that boys are showing better result than the girls.

It was expected that students’ academic performance and the distance of school from students’ house are positively related. If the school is near the resident of the student, he/she can easily attend the school regularly. The study shows that this relation is positive. But relation does not hold good because coefficient value is 0.041 and of insignificant t value 1.007.

8. Conclusion

The academic performance of the student depends on a number of socio-economic factors, only 8(eight) of which have been identified by us. This can explain at least 52% of our proposed model. There may be other factors which may have direct effect on the performance of the students. This requires an elaborate study of the performance of the student with multiple socio-economic factors by the application of multiple regression analysis as suggested by Bickel (2007).

As a part of overall suggestion of the study, student must be urged to be regular in there attendance and appointing authority or the department may reconsider its policy of appointing trained teacher for qualitative performance of the student.

References


