

Determinants Of Scholastic Achievement Among Secondary School Students: Evidence From Government Schools In Manipur

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Abstract:

Background: Scholastic achievement is one of the most important indicators of academic performance of students and measures the effectiveness of teaching-learning process. The results of any academic performance in government secondary schools can easily be affected by several contextual factors, other than the individual ability.

Materials and Methods: The research design used was descriptive survey and was carried out on 435 students of Government Secondary Schools of Imphal East and Imphal West districts of Manipur. Structured questionnaires as well as school examination records were used in the collection of data. The achievement in schools in terms of final examination performances conducted by the school was analysed as the scholastic achievement and home, school, and infrastructural factors as the determinant. Data analysis involved the application of statistical methods like percentages analysis, mean, standard deviation, and inferential tests.

Results: Results indicated that a significant proportion of students fitted in the lower-to-moderate performance category with little percentage in the higher performance category. The analysis in terms of subject showed relatively worse performance in science-based subjects. Home factors like inadequate study space, school related factors like language barrier and inadequate remedial support and lack of adequate infrastructures like inadequate laboratories, computers and subject teachers were reported to affect scholastic achievement.

Conclusion: The paper finds that scholastic achievement is influenced by both contextual and institutional factors and not just on individual ability. To enhance academic performance, interventions should be integrated with an emphasis on the learning conditions, instructions and access to resources in government schools.

Key Word: Scholastic; Achievement; Determinants; Infrastructure; Secondary

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I. Introduction

Academic performance is commonly considered as a key measure of academic success of students and the efficiency of the education system. On secondary level, it is very instrumental in defining the educational advancement and prospects of students. Historically, the success of academic performance has been defined as a test score, but more recent studies argue that academic success depends not only on cognitive ability but is a complex interplay between contextual and environmental variables^{1,2}.

Recent educational research underlines that scholastic achievement is a complex phenomenon that is made up of home, school, and structural conditions. Ecologically, learning outcomes are integrated into a network of systems that determine how the students engage, feel motivated, and get access to the learning opportunities. Academic engagement and performance of students is greatly influenced by home related factors like parental support, availability of study space and availability of learning materials⁴. Likewise, school-related issues such as teacher performance, language of instruction, classroom engagement, and presence of remedial teaching are significant in determining academic performances^{3,5}.

Besides home and school conditions, infrastructural conditions have also been found to be critical factors determining academic performance. The quality of teaching-learning processes and improved academic results are promoted through the availability of laboratories, libraries, teaching materials, and digital resources. Research on international studies has always indicated that schools that are well-structured in terms of infrastructure show greater student achievement rates^{6,2}. On the other hand, poor facilities and accessibility to learning materials may inhibit effective learning and result in poor performance in school.

National policy frameworks including the National Education Policy (NEP) 2020 in the Indian context focus on enhancing fundamental learning, equity, and quality in school education, and as per the recent UDISE+ reports, there are still issues with infrastructure, teacher ratios, and learning outcomes in government schools^{9,10}. A considerable percentage of students are still clustered in the lower achievement categories and this shows that

there is structural issues in regards to the instructional methods of teaching, learning settings and the access of resources as opposed to the lack of abilities in learners².

The Government Secondary Schools of Manipur serve mostly students of different socio-economic backgrounds and are often faced with limitations in form of poor facilities, lack of qualified teachers and lack of academic support. Early studies show that the academic performance of students is mostly concentrated in the low-to-moderate levels of achievement with little representation on the high levels of performance. This is an indication that there are structural and contextual constraints to achievement at school.

An overview of the literature indicates that in most studies determinants of academic achievement have been studied individually with emphasis being placed on home environment, school factors, or infrastructural conditions. Nevertheless, achievement in school is a multidimensional phenomenon in itself, and these factors tend to interact. Additionally, these determinants are not empirically explored using one analytical framework, especially in the North-East Indian scenario. Also, most of the studies use perception-based data unrelated to real academic performance indicators.

Against these gaps, the current research is expected to examine scholastic achievement of secondary school students on the basis of performance in examination conducted by the school and also to test the effects of home related, school related and infrastructural factors on student academic performance in Government Secondary Schools of Imphal East and Imphal West district in Manipur.

Objectives of the Study

The following objectives were taken into consideration in carrying out the current study:

1. To examine the academic performance of students according to the performance in final examination administered by the schools in Government Secondary Schools of Imphal East and Imphal West districts.
2. To examine subject-wise trends of scholastic performance of secondary school students.
3. To investigate how the home related factors affect the academic performance of students.
4. To determine how school-associated variables impact the academic performance of students.
5. To examine how infrastructural issues can be used to define scholastic achievement among the students.

II. Material And Methods

The current study was conducted on students at Government Secondary Schools of Imphal East and Imphal West of Manipur. The researcher aimed at studying the scholastic achievement and exploring the impact of the home factors, school-related factors and infrastructural factors on the academic performance of the students.

Study Design: The research design used was descriptive survey research because the researchers sought to identify the current state of scholastic achievement and the determinants without controlling any of the variables.

Study Location: The study was carried out in Government Secondary Schools in the Imphal East and Imphal West districts of Manipur, the key learning centres of the valley area of the state.

Study Duration: The study was conducted during the academic session of 2023- 2024.

Sample Size: The study was conducted on 435 students in Class IX and Class X.

Sample Size Justification: The sample size was accomplished according to the descriptive survey research principles. The total population comprised of 4342 students who were in Government Secondary Schools of the sampled districts. The sample size was about 10% of the population and that is thought to be sufficient in getting reliable and representative outcomes in the educational research.

Subjects and Selection Method: The population of the study was composed of students studying under Class IX and Class X in the Government Secondary Schools of Imphal East and Imphal west districts. A distribution of the sample was done using a proportionate random sampling method. A random selection of 66 schools was made to ensure that there was representation of both districts (Imphal East: 204 students; Imphal West: 231 students).

Tools and Procedures methodology: Structured questionnaire and scholastic achievement records were used to collect data. The achievement on a scholastic level was measured using the student performance in school administered final exams and classifying the performance on a percentage scale to make it easy to analyse. Even though the scholastic achievement was self-reported, the rating of the score ranges to categorical levels contributed to the elimination of reporting bias. The data that were collected were subject-wise in English, Meitei Mayek, Mathematics, Science, Social science and another subject.

They were asked to fill in a structured questionnaire in order to gather data on that which affects scholastic achievement. There were three broad dimensions in the questionnaire that comprised of home-related factors, school-related factors and infrastructural factors. The home-related and school-related factors were dichotomous (Yes/No)-based items, whereas the infrastructural factors were evaluated based on the four-point scale between "Not at all" and "A lot."

Before collecting the data, the instrument was tested using expert review and pilot testing. The data were obtained by direct administration of the questionnaire upon receiving permission by the school authorities. The students were informed of the objective of the study, and their answers were kept confidential.

Statistical Analysis: Data obtained were coded, tabulated and analysed by using the relevant statistical methods with the assistance of SPSS software. The distribution of scholastic achievement was analysed with the help of percentage analysis, mean and standard deviation were calculated to analyse central tendency and variability. Associations between variables were analysed by using Chi-square test, and differences between groups were compared by using Mann -Whitney U test. The significance level was determined to be $p < 0.05$.

III. Result

This section gives the analysis of the data pertaining to scholastic achievement and its determinants of the students of Government Secondary Schools in Imphal East and Imphal West districts of Manipur. The results are given based on the study objectives.

Academic Performance According to the final examination given by the schools.

Table 1 shows the distribution of scholastic achievement of students in terms of the performance in final examination done by schools.

Table 1: Overall Distribution of Scholastic Achievement (N = 435)

Scholastic Achievement Level	Frequency (f)	Percentage (%)
34%-50%	403	92.6
51%-60%	32	7.4
Total	435	100

Table 1 indicates that a very large proportion of students (92.6) are concentrated in the 34 -50% range of achievement with only 7.4 students falling in the 51-60 category. It is worth noting that no student was located in upper achievement levels of above 60. It means that there are quite high concentrations of students in the lower-to-moderate performance band. The distribution can be viewed as an indication of a restricted academic variance and an overall poor academic performance of students. The lack of high performers also shows that the teaching learning processes are not effective enough in the achievement of higher-level outcomes of learning.

Subject-wise Academic Achievement.

Table 2 gives the subject-wise distribution of scholastic achievement.

Table 2: Subject-wise Distribution of Scholastic Achievement (N = 435)

Subject	Below 33% (%)	34-50% (%)	51-60% (%)	Above 60% (%)
English	23.7	50.3	21.8	4.2
Meitei Mayek	6.9	64.1	29.0	0
Mathematics	29.0	43.0	28.0	0
Science	37.0	59.5	3.4	0
Social Science	17.2	75.4	7.4	0
Additional	9.0	73.3	15.6	2.1

A closer look at Table 2 shows that there is a wide range in the scholastic achievement in various subjects. The highest percentage of students with lower scores under 33 is in Science (37.0%) and Mathematics (29.0%), which means that the performance in these disciplines is quite poor. Meitei Mayek demonstrates a relatively higher performance, however, with relatively lower rates of students below 33, 6.9%. The overall trend is seen by most students in the range of 34–50% across all subjects, which serves as a strong support of the overall trend in Table 1.

The data also point out that only a small number of students can reach the high scores more than 60 and especially in Science and Mathematics where there is no student who can be classified as higher achievement. This indicates that learners have more difficulties in subjects that demand conceptual knowledge and problem solving. The performance may be better in language subjects as familiarity and ease of understanding, which is relatively better.

Domestic-Based Factors that influence Scholastic Achievement.

Table 3 shows the distribution of home related factors.

Table 3: Home-Related Factors Affecting Scholastic Achievement

Statement	Yes (%)	No (%)
Separate study room	22.1	77.9
Study on bed	65.7	34.3
Proper lighting/ventilation	71.7	28.3
Shared room	59.3	40.7
Tuition support	31.7	68.3
Textbooks provided	91.5	8.5
Reading materials available	27.8	72.2
Parental monitoring	36.6	63.4
Parental encouragement	37.9	62.1
Parent participation in school	31.9	68.1

Table 3 indicates that the proportion of students without proper study facilities at home is large. The percentage of those who have a separate study room is only 22.1% and that of those who do not is at 77.9%. Also 65.7% of the students study on the bed and 59.3% of the students share a room with other family members meaning that they do not get to learn in conducive settings which can influence the concentration and study patterns. Whereas 71.7% said that they had adequate lighting and ventilation, lack of personal study space is a huge setback.

Only 31.7% of the students receive tuition in terms of academic support and there is low access to supplementary learning materials (27.8%). Although most students (91.5) are provided with textbooks, they seem to be given minimal parental involvement, and only 36.6% have parents monitoring their children, 37.9% encourage their children, and 31.9% parental involvement at the schools. These results indicate that underprivileged home learning conditions and parental involvement could be detrimental to the academic performance of students in spite of the basic academic support.

3.4 School-Related Factors that influence the achievement in school.

Table 4 shows the distribution of school related factors.

Table 4: School-Related Factors Affecting Scholastic Achievement

Statement	Yes (%)	No (%)
English medium instruction	34.5	65.5
Mother tongue instruction	46.0	54.0
Bilingual instruction	57.5	42.5
Comfortable in Manipuri	62.8	37.2
Difficulty in English exams	51.5	48.5
Prefer Manipuri exams	46.0	54.0
Marks improve in Manipuri	55.4	44.6
Comfortable in English	34.5	65.5
Comfortable in Manipuri	80.5	19.5
Remedial classes available	23.0	77.0

As Table 4 reveals, language comes out as one of the influential elements in scholastic achievement. It shows the students (51.5) claimed that they found it hard to write examinations in English, but most of them (80.5) claimed that they were comfortable with Manipuri language. This is an indication that students will not easily understand and express themselves in case they are assessed in English.

Moreover, the percentage of student access to remedial classes was found to be only 23.0 which means that there is a lack of academic support of students with learning problems. The results indicate that the inappropriateness of language of instruction compared to the linguistic competence of students, coupled with insufficient remedial instructions, can be one of the reasons of low achievements.

Infrastructural Factors Affecting Scholastic Achievement

The distribution of infrastructural factors is presented in Table 5.

Table 5: Infrastructural Factors Affecting Scholastic Achievement

Factor	To Some Extent (%)	A Lot (%)
Laboratory shortage	38.6	14.0
Instructional materials shortage	34.3	11.3
Computer shortage	44.4	20.5
Library shortage	40.7	13.1
Audio-visual resources lack	35.6	12.4
Lack of subject teachers	41.8	15.6

As seen in Table 5, infrastructural shortcomings have a significant impact on the learning of students. The most important constraints were found to be shortage of computers (44.4%), and absence of subject-specific teachers (41.8%). Equally, the lack of laboratory (38.6) and library facilities (40.7) imply that there is little chance of being able to learn practically and independently.

The data also indicate that a significant percentage of students acknowledge these gaps to influence their learning to a certain degree, and a smaller but significant percentage claim that the mentioned issues impact them to a considerable degree. The above findings indicate that the infrastructural constraints are rampant and they might be a factor in the overall poor performance of the students in terms of scholastic achievement.

IV. Discussion

The current paper has discussed academic achievement amongst the secondary school students and has considered the role of home related, school related and infrastructural variables in academic performance of students. The results show a strong concentration of students in lower-to-moderate achievement range, which means the lack of academic differentiation. This trend indicates that there exist some systemic constraints in the teaching-learning process and not individual ability among learners. This performance clustering can be theoretical as academic compression where most students are having their performance trapped in a tight achievement range and thus cannot allow high academic performers to emerge. It means that the academic results in question are pre-programmed instead of being independent of the learner.

The finding can be explained in the context of the ecological systems theory, by Bronfenbrenner, which views learning results as being affected by the interaction within a system of various environmental contexts and these contexts are home, school and institutional systems. This view is upheld in the current study because it shows that contextual factors affect scholastic achievement because of a compound and not as a result of single variables. Other studies have also reached similar conclusions and point towards the fact that learning condition differences have a great influence on academic outcomes^{1,2}. Therefore, the results confirm the perception that the academic performance is rooted in more comprehensive socio-educational frameworks.

Subject-wise analysis also demonstrated a relatively low performance on Science and Mathematics where a larger proportion of students were below minimum achievement on the subjects. This tendency can be explained by the abstract and conceptually challenging character of these subjects that presuppose efficient pedagogical interventions, scaffolding, and constant feedback. The results are in agreement with Hattie³ who points out that the quality of instruction and the clarity of the explanations are very important determinants of learner behavior especially in cognitively challenging subjects. The small pool of remedial teaching, witnessed in the given research, also restricts the capacity of students to close conceptual gaps, which strengthens low achievement trends.

Home-related factors too became significant factors of scholastic achievement. The results show that a significant percentage of students do not have proper study facilities and most of them study on the bed and share rooms with their family members which could adversely impact their concentration and study patterns. Despite the many basic academic assistance services like textbook provision, parental participation in the learning of the students seems low with little parental monitoring, encouragement, and involvement in the activities of the schools. This implies that families could offer key learning tools, but involvement in the academic affairs of students is inadequate. The results are in line with the findings of Castro et al.⁴ who assert that parental intervention has a positive impact on academic performance; nevertheless, its performance is dependent on the supportive learning conditions and parental participation.

The school related causes, especially the language of instruction were found to be the important contributors to academic performance. Many of the students complained that they had a hard time writing exams in English but felt more comfortable using Manipuri. This implies the fact that the medium of instruction and the linguistic abilities of students do not match and can impede their understanding as well as their ability to express themselves. The results are in line with those of Scherer et al.⁵, who point out that language barriers may become a major hindrance of academic achievement, particularly in the multilingual environment. Also, the fact that remedial classes are not readily available indicates that schools do not have adequate institutional means of managing the various learning needs.

Another reason the issue is systematic is the infrastructural gaps witnessed in the current analysis. The lack of laboratories, computers, teaching material, and subject specific teachers limits the quality of the teaching-learning practices. The results of this study are in line with the evidence of the same on the national level, which emphasizes the existence of overarching gaps in school infrastructure and resource accessibility in government schools throughout India¹⁰. In addition, the National Education Policy⁹ highlights the importance of improving the quality of instruction and school infrastructure in order to raise the learning outcomes. This is also supported by international evidence^{6,2}.

Overall, the results show that scholastic performance is predetermined by the complicated interplay of contextual and institutional determinants. Poor home conditions, language issues, insufficient support in

instruction and infrastructural shortcomings combine to put up systemic obstacles to quality learning. Consequently, to make academic performance better, it is important that an integrated and holistic approach be applied to all these dimensions of education system and not on an individual student performance.

V. Conclusion

This paper looked at the academic performance of secondary school students in Government Secondary Schools of Imphal East and Imphal West, Manipur and investigated the effects of home related, school related and infrastructural variables on academic performance of students. According to the results, a significant percentage of students is concentrated in the range of lower-to-moderate achievement, which speaks of the lack of academic differentiation and gives evidence of the limitation of the teaching-learning process in the system. The subject-wise analysis also indicated relatively poor performance in the subjects of Science and Mathematics, which indicated the lapses in understanding concepts and the support of the instruction.

It also points out that more than the ability of an individual, it is a mixture of both contextual and institutional factors which influence scholastic achievement. The lack of proper studying facilities, challenges of study and challenges of school level like language barrier and remedial support or lack of infrastructures like shortage of laboratories, computers and teachers specialized in specific subject all affect the performance of students at school. Thus, to improve scholastic performance a holistic method should be taken which involves these structural problems, reinforcement of teaching and learning practices and development of learning infrastructure to make the learning environment conducive and effective.

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