



RESEARCH ARTICLE

STUDY OF THE INSTITUTIONAL ENVIRONMENT: A CASE OF ACADEMIC ACHIEVEMENT AT ELEMENTARY LEVEL IN THE SCHOOLS OF NCT OF DELHI

Dr. Nahar Singh

Manuscript Info

Manuscript History

Received: 05 May 2021

Final Accepted: 10 June 2021

Published: July 2021

Key words:-

Institutional Environment

Abstract

Over the past two decade since the beginning of the *Sarva Shiksha Abhiyan* (SSA) programme in india, there has been a significant increase in the number of schools and in the enrolment of children in Government schools, most notably a large proportion of children from amongst Scheduled Castes, Scheduled Tribes, Muslims and Girls have joined the schooling system. Most of these children are also first-generation learners. In this regard SCERT Delhi conducted an achievement survey for classes II, V and VIII and gathered the information about the academic environment pertaining to school, teachers and students. This study reflected the background of the students such as locality, parent's education, community and the same was followed of the teachers and schools. Majority of the sampled schools (71%) were managed by Municipal Corporation. More than 80% schools were located in urban areas and about half of the schools were Co-Educational, while 22% and 28% schools were Boys and Girls schools respectively. About 96% of schools responded that they have the provision to monitor classroom teaching regularly and 92% of the schools were monitored by the Head of the school. Father's of 2% students and 0.6% mothers were in the academic field. In the surveyed schools, 28% were male and 72% were female teachers. Majority of teachers (54%) had attended in-service training programmes. In more than ninety percent of the sampled schools Maps, Charts, Globe, Mathematics kit and Library were available. About 90% and 98% of the school's annual medical check-up facility and first aid facilities were available. Nearly 70% students reported that their homework was checked regularly. This document has helped education planners as a reference research document to improve the education administration and planning systems in the state.

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Introduction:-

With the enactment of 'The Right of Children to Free and Compulsory Education' (RTE) Act 2009, the Government is obligated to ensure eight years of compulsorily quality education for all children in the age group of 6-14 years. Over the past two decade or so since the beginning of the *Sarva Shiksha Abhiyan* (SSA) programme, there has been a significant increase in the number of schools and in the enrolment of children in Government schools, most notably a large proportion of children from amongst Scheduled Castes, Scheduled Tribes, Muslims and Girls have joined the schooling system. Most of these children are also first-generation learners, coupled with the fact that they

also come from very impoverished socio-economic backgrounds, present unique challenges for the education system to adequately support the diverse learning needs of students. While high enrolment and diverse classrooms is a sign of healthy inclusion and participation in the education system, it is equally important that all children receive good quality education. One of the key indicators of quality education is to understand whether children's learning achievement is improving over time in an equitable manner. In this regard SCERT Delhi conducted an achievement survey for classes II, V and VIII in 2015 and results were shared and published. In its second round, SCERT conducted surveys for classes III, V and VIII in 2015-16.

Objective of the study:-

1. To analyze the achievement level of students on the variables such as gender, area, category and management type of school.
2. To explore the institutional background variables (school, pupil and teacher) this affects achievement of students.

Research Methodology:-

Tools: Following tools were used to gather the information.

1. Achievement tests
2. School Information form
3. Teachers Questionnaire
4. Students Questionnaire

Tool Administration

The tools i.e., Achievement Tests and Questionnaires were administered upon the selected sample students, schools, and teachers. After the administration of the tools, the data gathered was sorted, cleaned and tabulated for analysis.

Analysis of Data

In the State Level Achievement Survey data was analyzed using Classical Test Theory (CTT) and Item Response Theory (IRT). Throughout this study the results are reported using 'Scale Scores', calculated using IRT, which are placed on a scale from 0 to 500 with a Mean of 250 and Standard Deviation of 50 along with percentage correct i.e. percentage of students attempting items /test correctly using CTT. Scaled scores are computed by statistically adjusting and converting raw scores onto a common scale to account for differences in difficulty levels of test items.

Findings of Institutional Environment on Students Achievements.

Level: Class III

Schools

1. **Management:** Majority of the Class III sampled schools (71%) were managed by Municipal Corporation.
2. **Location:** More than 80% of schools were located in urban areas.
3. **School population type:** About half of the schools were Co-Educational while 22% and 28% schools were Boys and Girls schools respectively.
4. **Monitoring:** About 96% of schools responded that they have the provision to monitor classroom teaching regularly and 92% of the schools were monitored by the Head of the school.
5. **Evaluation:** CCE scheme is being implemented in 96% Schools, about three fourth of the schools sampled have received the guidelines on CCE implementation and 89% schools have received instructional material on CCE. About 72% of Schools had received training based on CCE.
6. **Time table:** Nearly 58% of schools followed 8 periods in a day to teach the students. Duration of each period in 34% schools was 35 minutes and in 31% schools each period was 30 minutes.
7. **Community support:** In more than 50% of schools, the Parent Teacher Association and School Management Committee were present.
8. **Learning aids:** Maps, Charts, Globe, Mathematics kit and Library were available in more than ninety percent of the sampled schools. Science kits were available in about 88% of the schools.
9. **Health survey:** In 90% of the schools' annual medical check-up was done and in 99% schools first aid kits were available.
10. **Type of building:** Only 1% of schools were running in Kaccha Buildings.
11. **Infrastructure:** Almost all the schools had the basic facilities of Electric connection.

12. **Toiletries:** About 99% of the schools had toilet facilities and separate toilets for girls were available in 93% of schools.
13. **Sports facilities:** More than 90% of schools had facilities of sports and games material, safe drinking water and mats and furniture.
14. **Drinking water:** More than 90% of schools had facilities of safe drinking water.
15. **Students**
16. **Student's sex ratio:** 49% students were boys and 51% were girls.
17. **Social status:** In the survey, 11% students belonged to 'SC' category, 6% students belonged to 'ST' category, 10% students belonged to 'OBC' category and 73% students belonged to 'Others' category.
18. **Divangyata (differently abled):** Only 2% students in the Class III sample were differently able.
19. **Preschool readiness:** About 58% of students attended pre-primary classes.
20. **Subject liking:** Language (Hindi) subjects were liked by 76% of students, whereas 61% of students liked Mathematics. About 63% students in Language (Hindi) and 52% in Mathematics viewed their performance as good in the given subjects.
21. **Home assignment:** Nearly 71% and 73% of students responded that they got homework regularly respectively. About 70% of students' homework in Language and Mathematics was regularly checked by teachers.
22. **Availability of textbooks:** Textbooks in Language and Mathematics were available to 98% of the Class III students.
23. **School time willingness:** More than 90% of students liked to be in school.
24. **Library:** Facilities such as the Library (96%), Newspaper (57%), Magazines (42%), storybooks/comics (75%)
25. **ICT facilities:** computers (62%) and internet connections (43%) were available to students in school. Facilities such as Television (94%), Newspaper (32%), Magazines (14%), storybooks/comics (40%), computers (12%) and internet connections (8%) were available to the students at home.
26. **Medium of instruction:** About 77% of students used the same language at home as used for instruction in school.
27. **Academic support at home:** About 73% of students get help in studies at home and 65% students take private tuitions.
28. **Home engagements:** Majority of the students indulged in playing (98%) followed by chatting (92%), drawing (85%), cleaning (68%), interaction (61%) and Cooking (42%) at home.
29. **Parent's/guardian education:** Only 3% fathers and 2% mothers of Class III students were educated up to Degree level and above and 18% fathers and 33% mothers were illiterate.
30. **Parent's/guardian vocation and works:** More than half of the students' fathers were agricultural laborers, domestic servants, daily wagers or street vendors followed by skilled workers, office workers, shopkeepers or businessmen (34%). Most of the mothers were either unemployed or housewives (70%). Only 2% fathers and 0.4% mothers were holding posts at the level of manager, senior officer or professional. Fathers of 2% students and 0.6% mothers were in the academic field.

Teachers

1. **Teachers sex ratio:** In the surveyed schools, 28% were male and 72% were female teachers.
2. **Age demography:** Most of the teachers (40%) fall in the age group of 31-40 years followed by 33% fall in the group below 30 years. There were 8% teachers who were in the age group of 51-65 years.
3. **Social status:** Majority (57%) proportion of teachers fall in the category of 'Others', 21% teachers were 'OBC', 14% were 'SC' and only 8% teachers were under 'ST' category.
4. **Education qualifications:** About 40% teachers were having Post Graduation qualification and 48% were having Graduation in the sample. About half of teachers were holding elementary teacher training certificates followed by 47% teachers holding graduate level qualification and only 0.8 % teachers were untrained.
5. **In-service academic support:** Majority of teachers (54%) had attended in-service training programmes and 51% teachers had received only 1-day training programme and 42% teachers had received 2-3 days training programme.
6. **Use of TLM:** For teachg and learning, Self-prepared TLM, Mathematics kit, globe, maps and charts were reported to be used by more than ninety percent of teachers. About two third teachers regularly used self-prepared TLM.
7. **Syllabus planning:** More than three fourths of the teachers reported that they maintained teachers' diaries regularly.
8. **TLM grant:** The TLM grant was received by only 18% of teachers.

9. Textbooks book used: About 87% of the Class III teachers were using the revised text books based on the NCF-2005.
10. **Level Class V**
11. **Schools**
12. **Management type:** About three fourth of the Class V sampled schools were managed by Municipal Corporation.
13. **Geographical demography:** Nearly 82% schools were from Urban areas and 18% of schools were located in Rural areas.
14. **School population type:** Half of the sampled schools were co-educational schools, while 22% and 27% schools were Boys and Girls schools respectively.
15. **School readiness:** About three fourth schools were providing education from class 1 - V.
16. **Monitoring:** In 95% of the schools, provision to monitor classroom teaching regularly was observed and in 92% Schools monitoring was done by the Head of the School.
17. **Evaluation:** In 96% Schools, the CCE scheme was being implemented and 75% of schools had received the guidelines on CCE implementation. About 89% surveyed schools had received instructional material on CCE and 71% of the Schools had received training based on CCE.
18. **Time table:** Nearly 60% of schools followed 8 periods in a working day to teach the students. in 35% schools each period was of 35 minutes and in 32% schools one period was of 30 minutes.
19. **Community support:** Parent Teacher Association and School Management Committee were present in more than half of the schools.
20. **Learning aids:** In more than ninety percent of the sampled schools Maps, Charts, Globe, Mathematics kit and Library were available.
21. **Health survey:** About 90% and 98% of the school's annual medical check-up facility and first aid facilities were available.
22. **Music facilities:** The musical instruments were available in 51% of the sampled schools.
23. **Building type:** Only 10% and 1% schools were running in Partial pakka and Kaccha Buildings.
24. **Electricity:** Almost all the schools had the basic facility of Electric connection.
25. **Sports and space adequacy:** Playground, separate classrooms for each section and barrier free access was available in more than eighty percent of the schools.
26. **Drinking water and toiletries:** Safe and adequate drinking water, toilet facilities and mats and furniture were available in more than 95% of the schools. About 99% percent schools were having toilet facilities and separate toilets for girls were available in 91% schools.

Students

1. **Student's sex ratio:** Overall the Class V sample comprised 49% boys and 51% girls.
2. **Social status:** In the survey, 16% students belonged to 'SC' category, 3% students belonged to 'ST' category, 9% students belonged to 'OBC' category and 72% students belonged to 'Others' category.
3. **Divangyata (differently abled):** In the sample, only 1% of students were differently abled.
4. **School readiness:** Nearly, 51% of students had attended pre-primary classes.
5. **Subject liking:** About 77% and 53% of students liked Language (Hindi) and Mathematics subjects respectively. About 66% students in Language and 51% in Mathematics viewed their performance as good in the given subjects. In Language, 71% students and 73% students in Mathematics reported that they got homework regularly.
6. **Home assignment:** About 70% and 60% students responded that their homework was checked regularly in Mathematics and Language respectively.
7. **Textbook books:** About 96% of students reported that they had Language and Mathematics textbooks.
8. **School liking:** Nearly ninety percent of students liked to be in school.
9. **Reading facilities and ICT :** Facilities such as Library (85%), Newspaper (56%), Magazines (43%), storybooks/comics (72%), computers (62%) and internet connection (37%) were available to the students in the schools. Facilities such as Television (95%), Newspaper (32%), Magazines (17%), storybooks/comics (48%), computers (20%) and internet connection (13%) were available to the students at home.
10. **Mode of instructions:** About 79% of students used the same language at home as used for instruction in school.
11. **Teachers**
12. **Sex ratio:** In the surveyed schools, the majority of the teachers were female (71%) and 29% were male teachers.

13. **Age demography:** Most of the teachers (39%) fall in the age group of 31- 40 years followed by 29% who fall in the age group below 30 years. Only 9% teachers were in the age group of 51-65 years.
14. **Education qualifications:** About 46% were having Post Graduation and Graduation qualification and 8% teachers were qualified up-to Sr. Secondary level. More than half of the teachers were holding elementary teacher training certificates (54%) followed by 40% teachers who were qualified up to post-graduation level. In the sample, not even a single teacher was untrained.
15. **Academic collaborations:** 42% teachers were interacting with colleagues mostly to develop instructional materials. About 26% of the teachers rarely visited another teacher's classroom to observe his/her teaching. Nearly 55% of teachers reported that their classroom teaching was sometimes observed by another teacher.
16. **School building:** Overall 10% teachers felt that the need of significant repair of the school building was a serious problem. More than 90% of teachers agreed that the present school environment was safe.

Level Class VIII

Schools

1. **Management type:** Nearly ninety percent of the Class VIII schools surveyed were managed by the Directorate of Education.
2. **Geographical demography:** About 84% of schools were located in Urban areas and 16% of schools were in Rural areas.
3. **Population type:** In the sample, 27% schools were Co-Educational schools, while 37% and 36% schools were Boys' and Girls' schools respectively.
4. **School structure and operations:** About 40% schools were providing education from Class I -XII, 6% of Schools were imparting from Class I -X and 0.5% schools were imparting education I –VIII Classes.
5. **Monitoring:** Provision of monitoring classroom teaching regularly was reported by 98% schools, about 95% Schools were monitored by the Head of the School and 4% schools were monitored by Peer Teachers.
6. **Evaluation:** About 87% Schools had received training based on CCE.
7. **Time table:** In 64% schools 8 periods were followed in a day to teach the students. In 29% schools each period was of 35 minutes and in 41% schools one period was of 40 minutes.
8. **Community support:** In more than 50% schools both School Management Committee and Parent Teacher Associations were existing.
9. **Learning aids:** Maps, Charts, Globe, Mathematics kit and Library were available in 99% and 98% of the schools sampled respectively. Science kit was available in about 97% of the schools.
10. **Health surveys:** In 88% of the schools' annual medical check-up was done and in 98% schools first aid kits were available.
11. **Building type:** Eighty percent of schools were having Pakka buildings.
12. **Electric facilities:** Almost all the schools had the basic facilities of Electric connection.
13. **Physical environment:** Playground and barrier free access was available in 87% of the schools. Mats and furniture, staffroom and separate classroom for each section were reported to be available in 94%, 95% and 89% schools respectively.
14. **Drinking water:** Safe and adequate drinking water was available in 98% of the schools.
15. **Sports facilities :** Sports and games material were available in 98% of the schools
16. **Toiletries:** About 99% of the schools were having toilet facilities and separate toilets for girls were available in 88% schools.
17. **ICT infrastructure:** Computers, internet connection and telephone connection were available in more than 95% of the schools.
18. **Customized academic support:** In the surveyed schools, about 70% of the schools had sections at the class VIII level on the basis of students' performance. Nearly 87% of schools were organizing remedial classes for slow learners.
19. **Students**
20. **Sex ratio:** The Class VIII sample consisted of 51% boys and 49% girls.
21. **Social background:** In the survey 16% students belonged to 'SC' category, 5% students belonged to 'ST' category, 8% students belonged to 'OBC' category, and 71% students belonged to 'other' category.
22. **Divangyata:** About 5% of the students were differently abled.
23. **Home assignment:** Nearly 70% students reported that their homework was checked regularly in Mathematics, 69% in Science, and 67% students in Language (Hindi).
24. **Textbooks:** More than 96% of students responded that they have textbooks in Language, Mathematics and Science subjects.

25. **School liking:** More than ninety percent of students like to be in school.
26. **Reading facilities:** Facilities such as Library (97%), Newspaper (82%), Magazines (77%), storybooks/comics (84%), computers (87%) and internet connections (60%) were available to students in school. Facilities such as Television (97%), Newspaper (41%), Magazines (24%), storybooks/comics (45%), computers (23%) and internet connections (23%) were available to students at home.
27. **Mode of instructions:** About 87% of students used the same language at home as used for instruction in school.
28. **Academic support:** Nearly 73% sampled students get help in their study at home whereas 61% students take private tuitions for their studies.
29. **Parent's educational background:** Fathers of 5% students and mothers of 2% students were educated up to Degree and above, 36% fathers and 19% mothers were educated up to secondary and senior secondary level and 14% fathers and 33% mothers were illiterate.
30. **Parent's vocational and work background:** Majority of the fathers were skilled workers, office workers, shopkeepers or businessmen (48%) followed by agricultural laborers, domestic servants, daily wagers or street vendors (40%). Most of the mothers were either unemployed or housewives (80%). Only 4% fathers and 0.5% mothers were holding posts at the level of manager, senior officer or professional.

Teachers

1. **Sex ratio:** In the surveyed schools, 44% were male and 56% were female teachers.
2. **Age demography:** Majority of the teachers fall in the age group of '41-50 years' (31%) and '31-40 years' followed by 22% teachers who fall in the age group 'below 30 years'.
3. **Social background:** A major proportion of teachers fall in the category of 'Others' (71%), 13% teachers were 'SC', 11% were 'OBC' and only 5% teachers were under 'ST' category.
4. **Educational qualifications:** Majority of the teachers were having Post graduation (70%) qualification, 28% were having Graduation and 2% teachers were having qualification up-to Sr. Secondary level. About 85% teachers were having qualification up-to graduation level followed by 9% of post-graduation level and only 0.1% teachers were untrained.
5. **Service nature:** Majority of teachers were regular teachers (69%), 24% teachers were Ad-hoc and temporary and 7% teachers were on contract.
6. **In-service support:** About 62% teachers had attended In- service training programmes and about 52% teachers had received 2-3 days training programme and 37% teachers had received 1-day training programme.
7. **Text books:** More than 90% teachers used revised text books based on the NCF-2005.
8. **Academic collaborations:** About 63% teachers reported that discussion among teachers about how to teach a particular concept took place mostly and 47% teachers were interacting with colleagues mostly to develop instructional materials.
9. **Physical environment:** Whereas 18% teachers considered overcrowded classrooms as a serious problem. Only 7% teachers reported not having adequate workspace outside their classroom as a serious problem and 6% teachers reported non-availability of material as a serious problem. About 90% teachers were agreed that 'School is located in a safe neighborhood', more than 95% teachers were agreed to the statements that 'I feel safe at this school' and 'School has adopted adequate safety and security measures'.

Reference:-

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