LEARNING ACHIEVEMENT OF SLUM CHILDREN IN GOVERNMENT SCHOOLS OF DELHI

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PREFACE

Education is for the welfare and progress of people and its development is ultimately aimed at maximizing the capacity to fulfil the needs and requirement of the nation. The educational planners and administrators are engaged in the activities for and with the people particularly the children in the age group of 6-14, to help them achieve the desirable skills at the elementary stage so that they ultimately pass out a specific level of education to become graduate and thus come out of the system a finished product to be utilized in the job market.

Therefore, Universalisation of Elementary Education has been made our goal since independence and considerable quantitative expansion has taken place. Unfortunately the improved access is accompanied by a decline in the quality of primary education in government schools and the worst affected by this are poor and marginalized group of society who are forced to patronize these schools. The indifferent attitude of the community who are basically illiterate and poor towards the functioning of the government school is both the cause and effect of the inability of the teachers and administrators to improve the school effectiveness. As a result even after attending a school for four to five years the children from government schools are not able to learn basic required skills corresponding to their grade.

To understand the reality the learners achievement studies have been initiated in India. The aim of these studies is to investigate the relationship between the school, home and other factors on the achievement level of children especially from the backward areas. A number of studies have been undertaken in the DPEP districts to monitor the learning outcomes. Children of the slum areas although located in the city area also suffer from various deficiencies and deprivations. Not much research has been undertaken to look into the specific problems of this unsettled and migratory population. The present study, though based on a small sample tries to assess the achievement level of these children. The study tries to highlight that schools should try to equip themselves better in dealing with the specific skill related problems of slum children. The system cannot solely blame the parents for very low achievement of children and has to function more efficiently and

effectively to raise the level of these children and build a society based on equity and social justice.

The study was jointly undertaken with Prof Y.P. Aggarwal. Late Prof Aggarwal with his deep insight and understanding of educational problems and issues designed the methodology, which helped immensely during the fieldwork. He also provided guidance for the analysis of the data and read the first three chapters of the report.

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CHAPTER I

THE INHERITANCE AND THE NEED FOR REVITALISATION OF EDUCATION

1.1 Introduction

The last few decades have witnessed an unprecedented expansion of basic education opportunities throughout the world and particularly in the developing countries. After attaining independence many Asian, Latin American and African countries, spurred by the impetus provided by UNESCO and other national and international agencies, recognized basic education as a fundamental right and figured it prominently in their development agenda and political declarations. India has been no exception. The development planners in India also made basic education as an integral part of the national development perspective plan for achieving the objectives of growth with equity and social justice. The country since independence is committed to the fulfillment of educational goals by providing universal access and a satisfactory quality of basic education. The recently enacted 93rd Constitutional Amendment recognizes elementary education (6-14 years age group) as a fundamental right.

In order to fulfil these objectives of reaching education to all, the following five conditions are required to be satisfied simultaneously and on sustainable basis:

- Provision of easy access to an educational facility for all children in the eligible age group (6-14 years) irrespective of the caste, creed or location.
- All children enrolled at the right age, implying universal intake through formal, non-formal or alternative modes of educational facility.
- Universal retention throughout the primary and upper primary education cycle; implying no dropout and repetition once the children are enrolled.
- Universal transition from primary to upper primary grades for all children irrespective of the type of school from which they started their education.
- Comparable and satisfactory level of achievement by all students at the end of primary and upper primary classes.

The move towards achieving the UEE has to be chartered out in a way that various forms of inequities do not accentuate in the interim period but rather constantly reduce gender, regional and social inequities in accessing education, and in participation and achievement levels.

Even though the Indian government has taken full responsibility for meeting the basic learning needs of all children, the reality is far short of expectations. In India, the state governments are responsible for the implementation of educational reforms in school education. The Indian states have considerable autonomy to establish their own priorities between and within the development sectors and allocate the financial and other resources accordingly. In terms of outcomes, the indicators of intake, enrolment and the quality of schooling infrastructure and its outcome vary vastly between and within the states. The perpetuation of many forms of disparities in educational development is an ongoing concern of policy planners and program managers but not enough is being done to reform the system to respond to these challenges effectively. The lack of administrative clarity on the subject is evident from the fact that in India, there is no standard and acceptable list of indicators for monitoring progress towards UEE/UPE. Therefore, the field is open to various sets of indicators and varying interpretations by various players associated with the delivery and monitoring of basic educational services.

The perpetuation of various types of gender, social, regional and economic disparities on the one hand and disenchantment among beneficiaries on the other, are the consequence of the following five factors affecting the demand and supply of education:

a) The perpetuation of supply side distortions and bias/discrimination in the provision of educational infrastructure by the public authorities.

b) The inefficiencies in the management of education, teacher preparedness and deployment of teaching and allied resources.

c) Systematic demolition of the information management systems to prevent the real problems from being discovered and tackled in real time.

d) Straightjacket approach to the content and process of education for all. The relevance of the standardized curriculum and teaching-learning methodologies for all target groups affect the pace and quality of output.

e) The demand side constraints include the child, family and the societal responses to the public sector initiatives, which are also intrinsically linked to the religious, social and economic status of the family, the place of living and the expected tangible returns from a given level of education.

The present education scene is the result of the historically evolved patterns of socio-economic development, inability of the development planners to implement a viable and sustainable framework of education for all, lack of perspective planning by the agencies responsible for providing social services, on the one hand, and the pulls and pressures exerted by various vocal socio-economic groups to have larger pie in the state resources, on the other. Expressed in a generalised sense, the above factors constitute building blocks of a vicious circle of continuing educational underdevelopment and are sustained by each other. To achieve a virtuous circle of development, a straightjacket approach of achieving demand and supply equilibrium has neither worked in the past, nor would work in the future. As the regions/social groups progress towards universal participation, the strategies to meet the basic learning needs of the marginalized groups of population require an approach which is future-oriented rather than extension of the established practices meant for some other groups of population.

The models of mass education fail to attract the marginal and left-out groups of children. The urban poor constitute such a marginalized category. While the urban areas are characterized by affluence, modern living styles, having access to latest technologies, high educational attainment and high levels of income; the marginal groups continue to suffer from the lack of adequate living standards and access to health, education and meaningful employment opportunities. The poor and marginal groups certainly lack say in the corridors of power and hence not much attention is paid to their real needs. The five conditions mentioned above would never be met, if the above distortions and lack of understanding about the problems of poor continue to persist at various levels. These distortions are further confounded when the education sector is viewed from the prism of

religious, gender, social and economic inequalities in a large and diversified country like India.

The fee charging private institutions have tried to fill the vacuum by providing education, which is more responsive to the aspirations of parents and their children. Unfortunately, the central and the state governments have failed to develop a comprehensive policy on the public private participation in education. The position is not much different in respect of NGOs, CBOs and philanthropic institutions. A comprehensive model of educational development, especially at the grassroots is yet to emerge in each area-specific context. For a given area, the plans prepared by the education department continue to be partial and fail to take into account the contribution of other agencies and players as providers of educational services. The confusion is at its worst in the large urban areas and metropolitan centres. Have the Indian development planners learnt enough lessons from the experience of last five decades within the country and also from the experiences of other countries? The answer may be emphatic no! The following discussion further elaborates on some of the contradictions between the perceived and the realised goals.

1.2 Access and Quality: Is There a Trade-off?

Rapid developments in educational provisions in independent India have led to many positive outcomes, which are necessary but not sufficient conditions for the UEE to happen. India now boasts of the second largest education system in the world. It presently comprises of about 650,000 primary schools, 200,000 upper primary and 112,000 secondary/senior secondary schools. The arts, science, commerce and professional colleges number about 10,000. Nearly, 113 million students study in primary, 42 million in upper primary and 28 million in secondary/senior secondary grades. The number of teachers working in primary, upper primary and secondary/senior secondary schools approximates 2 million, 1.3 million and 1.7 million respectively. These are no small achievements by any standards but are not sufficient to meet the needs for achieving sustainable UEE.

Review of the progress towards UEE shows that even when the planners assured the country that quality concerns are being addressed to through various plan interventions, many issues relating to the retention and quality of output have persisted over the years.

While the enrolment at primary and upper primary schools has increased since independence, the intra and inter-regional disparities have persisted, thus depriving a large number of children to meet their educational needs.

By 1980's it was very clear that expansion alone would not help. By that time, the education system has reached a dead end as far as formal primary education was concerned. An equally important question is related to the improvements in quality of education delivery. Parents and the public in general often complain that children graduate from the schools without attaining competencies corresponding to the level of certification. Studies have also shown that even when children attend school regularly for five years, they still fail to successfully graduate the primary education cycle (Aggarwal, TN cohort, ar2001). Many poor parents feel cheated due to irrelevant content and the failure of the system to inculcate the necessary competencies and values among the children.

Consequently, based on various reviews and recommendations of the commissions and numerous committees, many schemes were launched to bring about improvements in the quality of education. Consequent upon the adoption of the National Policy on Education (1986), the scheme of Operation Blackboard was launched in 1988 with the premise that each primary school would have a minimum of two-all weather classrooms and two teachers. The establishment of National Council for Teacher Education was seen as a major reform in improving the quality of teacher training institutions. Realizing that the teachers play a significant role in the delivery of education services, the establishment of DIETs was considered as a landmark initiative in improving the quality of in-service and pre-service training. Besides these innovative reforms by the central government, many other incentives for students have been in the form of free textbooks, free uniform and midday meals. The response and success of these reforms in various states has been uneven. As a net outcome of the reforms, the gap in scholastic achievement between the privileged and the deprived children is unacceptably high and has persisted over the years. The dual system of education is getting accentuated over the years and no solution seems to be in sight (*Aggarwal, Haryana, January 2001*)**.**

Following the above discussion, it is evident that educational planning in contemporary India lacks clarity about the educational needs of the marginal groups, which constitute 10-20 percent of total population. This ratio is far less than the corresponding poverty ratio. Therefore, while many children from the poor families are already benefiting from the existing educational provision in the public and private sector, the needs of many others have yet to be addressed to. Who are these children? Little is known about the profile of-out-of school children and their families in India. It is a common perception that all such children are deprived on one or the other count and include: children with special needs, children living in remote and inaccessible habitations, street children, children working in informal sector, especially in the urban areas, children living in slums where access to educational facilities is limited and many other such categories of children.

In the above backdrop, India has just launched the Tenth Five Year Plan with many ambitious targets to be fulfilled by 2007. The objective of achieving UEE on sustainable basis still remains the highest priority area. For the first time, the Tenth Five Year Plan recognizes the need to focus on urban poor children. The scheme of *Sarva Shiksha Abhiyan (SSA)* is the most recent initiative of the central government to provide the necessary technical and professional support to the state governments for achieving the goal of UEE. The scheme articulates that educational plans for each habitation would be prepared, reviewed and implemented. Similar strategies would also be adopted in the urban areas. The success of such strategies would be determined by the extent to which educational provisions can match the real needs of the marginal and left-out children and the perceptions of their parents in both rural and urban areas. The SSA also addresses the question of extreme disparities in learning outcome. It is this area that has not yet been investigated adequately and little is known about the school/family effect on learning achievement, especially in urban deprived setting. With all its ambitious objectives, the parameters of the scheme and its implementation strategies need to be spelled out clearly and specifically.

One thing is clear that the school choice is an important attribute of learning outcome (Aggarwal,Haryana, January 2001). If it is so, can the poor exercise this choice? They are willing to help the government to revive the educational system but who bothers about

them. Field visit indicates that poor people feel cheated and community participation has remained only a slogan of the century.

1.3 Characteristics of Urbanisation in India

According to Census 2001, 27.8 percent of India's population lives in urban areas. The Indian urban scene is characterized by the existence of towns of varying population sizes. It varies from a large number of small towns that are no different from their rural hinterlands, to the large metropolitan cities, which are among the largest in the world. Some of the Indian metropolitan cities have shown a phenomenal population growth rate of 4 to 5 percent per annum during the nineties. Urbanization is thus a continuum in India with large variations in population and socio-economic characteristics. It would be futile to compare Jalgaon with Mumbai, both of which happen to be urban areas within the same state. Thus the contextual factors have serious implications for the design and implementation of educational planning models for urban areas. What works in one urban area may not work in the other due to differences in the social and economic nature of population groups.

Urbanization in India emerged in response to the push factors, which resulted in a large migration from the villages to urban areas. The illiterate, semi-skilled and manual workers have been migrating in search of better employment opportunities and partly due to the demand created for skilled and semi-skilled labour in industrial and commercial undertakings. Poor agricultural productivity and frequent crop failures have also added to the pressure for rural-urban migration. Every year, large numbers of poor migrant workers come to cities, like Delhi and Mumbai with the hope of assured income and better employment opportunities. Some migrate to avail of better educational opportunities for their children. City planners never anticipated the large influx of the migratory population and their civic needs. They failed to provide adequate facilities at affordable costs, which has led to the emergence of slums/ghettos, where people prefer to live without basic amenities for various reasons.

Practically in all cities of India, the development planners have failed to mobilize resources for meeting the growing needs for urban infrastructure and civic amenities for the vastly growing city population. This has given rise to strikingly sharp inequalities in

access to civic amenities within the cities. It is true of the basic education and health facilities also. While some are privileged to have air-conditioned homes and cars and hire the most expensive teachers, the others are living in small hutments without electricity and potable drinking water. People living in these squatter settlements are bereft of basic civic amenities of health, shelter and education.

The proportion of people living in slums varies from one city to another. Estimates published by the Census of India (2001) indicate that about 41 million persons live in urban slums in 706 urban areas and constitute 22.8 percent of the population of these towns. The 1999 estimates indicate that Delhi alone had 3.2 million people living in slums of various types[1].

1.4 Problem of Urban Poor

Slums are a universal phenomenon and exist in practically all the cities across the world. Delhi alone has approximately 1,100 big and small-unauthorized settlements comprising six lakh Jhuggies forming various clusters of slums, with around 3.2 million people living in these slums (Table 1.1).

Table 1.1 Growth of Jhuggies and Slum Population, Delhi

Year	No. Of Jhuggies	Population (estimated)	% Slum Population to Total Population
1951	12,749	75,000	4.3
1961	42,815	3,00,000	11.3
1971	62,594	4,00,000	9.8
1981	98,709	15,00,000	24.2
1991	2.59.344	18,00,000	19.1
1994	4,80,429	24,00,000	23.2
1999	6,00,000	32,00,000	23.5

Source: DDA Slum Wing 1951-99.

The data on slum population and its structure, availability of social infrastructure and amenities is lacking. Departments like Delhi Development Authority, Municipal

[1] The estimates of population living in slums vary. The census estimates are far lower than the corresponding data provided by the DDA.

Corporation of Delhi, New Delhi Municipal Corporation, Delhi Vidyut Board, Delhi Jal Board and other agencies have though compiled various statistics, but these are not easily available. In the absence of such information, an exhaustive analysis of the demand and supply gaps and the quality of social services like education, health, water and sewerage cannot be undertaken.

1.5 Review of Literature

Review of available literature reveals a variety of studies that deal with urbanization, education facilities, and performance indicators like enrolment, retention, dropouts and educational attainment. Broadly, these studies could be classified as macro and micro level studies focusing on selected metros/slum(s). Micro level studies conducted in big metropolitan cities show that the housing and environmental conditions are a big hindrance in the enrolment and retention of slum children. Notable among these studies are: Chitnis (1982), Chatterji (1998), Chugh (2002), Juneja (1998), Mukhopadhyay,(1998), and Seetharamu (1998). These studies have invariably pointed out to the poor quality of schools and their effect on the education of the urban poor. It is noted that it is difficult to retain the children in schools that have inadequate infrastructure, physical facilities and teachers with indifferent attitude. Govinda (1995) while dealing with the specific problems of urban poor children, mentions that the schools are not easily accessible to these children in the neighbourhood and the child has to cross a busy road which sometimes results into non-enrolment.

Seetharamu (1998), Ashraf and Papola (1986), Desai (1989), Nayar (1997), Prakash (1997), Banerjee (1998, 2000), Bhatti (1998), Public Report on Basic Education in India (PROBE, 1999) all deal with three vital problems of education in the urban poor context, namely non-enrolment, irregular attendance and dropout at elementary stage. Ashraf and Papola, and Chugh and Banerji found that the highest dropout was in class II and I and age-wise the in the age group of 9-12 years. These studies also prove that there is no correlation between age and grade dropout because many a times children admitted are over-age or they repeat the same grade and then dropout. Economic status of household is important in the initial decision to send a child to the school. Dropouts may not necessarily be associated with the economic or domestic reasons only; these are due to

the teachers and poor physical facilities also. One of the significant findings of the PROBE study is that the parents are dissatisfied with the functioning of schools, which results into low achievement of their children. They do not wish to send their children to poor quality schools. The survey team discovered that the infrastructure and physical facilities are much below the minimum standard. The number of teachers is much less than the required numbers. Banerji (2000) also pointed out that the nature and quality of schools were the determining factors rather than the economic constrains of the families. The school and their teachers have failed to meet the needs and requirements of the first generation learners. The study identifies that the most serious crisis in primary education is that the children do not become literate even after attending the school for four years. Jain et.al (2000) points out that nothing constructive happens in the school except beating, scolding or bad treatment to the children. Some of the other studies, like that by Panchmukhi (1990), Tilak (1996), Chugh (2002), have also found out that parents are not able to meet the educational expenditure, therefore, the level of participation remains very low among the poor. Almost all the studies have recommended the improvement in the quality of schools and the effective implementation of incentive schemes.

As quality of schooling emerged as a significant cause for dropout, it became a concern area for the educational planners and administrators. It is very difficult for educationists to reach at a consensus as to what constitutes quality in primary education. In broad terms, it refers to (i) salient features of the factors or the inputs (material as well as human) that go into the education process, (ii) aspects of the process itself-the action involved in school functioning and (iii) outcomes of the process i.e. learners achievement in terms of their performance. The nature and extent of interaction between the first two, i.e. the inputs and process influence the third, namely learner achievement (Govinda, Varghese, 1993). The factors influencing learner achievement can be broadly classified in three categories: (a) family or home background factors; (b) school related factors; and (c) child related factors. In other words they can be grouped as outside school factors and within school factors.

A number of studies, like the Coleman Report in the USA in the 70's highlighted that neither schools nor the human and financial parameters make a difference in learners' academic achievement. Variation is due to the family's socio-economic status and child's

background. Man and Loxley (1983) revealed that variation in learners' achievement is due to the home background factors in the developed countries, not in the developing countries. Govinda and Varghese (1993) found that various family background features like parents' social class, education and occupation, and family environment were significantly correlated with the academic achievement of the children. A few studies have tried to establish the relationship between children's nutritional status and performance at selected cognitive task including concentration in the classroom. Nine studies reviewed by Pollite (1990) reported the significant relationship between protein energy nutritional status and cognitive test score or school performance in China, Guatemala, India, Kenya, Nepal, Philippine and Thailand.

The findings of the Coleman study led to a number of research studies, which examined the effects of within school variables on student's learning achievement. Contrary to the findings of Coleman, it was recognized that within school differences account for much more variation in achievement scores than to between schools differences (Dawney and Doll, 1993). In a second study, Coleman (1997) also found that schools and the appropriate use of resources is related to a great deal of variation in student achievement scores (Coleman, Hoffer and Kilgore, 1981). Developing countries should improve the school effectiveness and learner achievement by making necessary policy interventions, such as (a) improvement in the curriculum; (b) enhancing learning material; (c) increasing instructional time; (d) improving teaching methodology; and (e) increasing the learning capacity of students. As per Lockheed and Verspoor (1991) the school-based interventions improve student achievement whereas Govinda and Varghese (1993) have found that the better infrastructural facilities seem to have a close correlation with learner achievement. They have also found that teachers with professional training perform significantly better in terms of learning outcome of their students. Fuller (1997) revealed that teacher training clearly makes a difference for student learning. Research from a number of countries has shown that curriculum imparted, teaching learning-process, availability and utilization of opportunity time, teachers' professional training, etc. plays an important role in determining and improving learner achievement. Findings on the achievement levels for primary school students by a few studies from different states of India are also examined here to determine if the difference in learning achievement can

be attributable to disparity in gender, caste and locality. Some studies were conducted to establish baseline learning achievement levels under the District Primary Education Programme (DPEP).

Shukla (1995) studied the factors, which facilitate or obstruct the achievement level. A sample of 65,000 students from 4,700 schools in 23 Indian States and Union Territory of Delhi was selected. The study highlighted rural-urban and gender differences in attainment within the states. The study found that better textbooks and teacher qualifications do not relate to student's achievements. School variables like PTA, facilities for teachers' availability of space for organizing teaching, amount of time devoted to teaching and help received under Operation Black board are found to be positively related to achievement of learners.

Jangira (1994), while synthesising the results of Baseline Assessment Studies of the DPEP states, found that student's performance in reading and arithmetic was low. There was a marked difference in achievement levels among states and between schools. However, a significant difference was observed among the schools belonging to different managements (Aggarwal, 2000). The schools managed by MCD reported the lowest mean scores. Large differences in the achievement scores between Grade I and Grade IV were found which points to a gap in the quality of teaching-learning and classroom interaction processes. While Grade I achievement scores were based on oral tests, the Grade IV scores were based on the written tests.

Similar studies were conducted in many states as part of the DPEP baseline learners' studies. Varghese (1994) found that the level of school infrastructure and variations in the availability of teaching-learning material were not clearly related to learning achievement. The study by Ved Prakash and others (2000) as a Mid-Term Assessment Survey (MAS) conducted in 56 districts spanning eight states revealed that the performance of students in Grade I was better than the performance of students in Grades III and IV, except in Grade I language in Kerala. It implies that the pedagogical renewal process has shown greater impact in the initial stage than the penultimate stage of primary schooling. However, no specific studies have been taken up to assess the achievement level of the slum children.

1.6 Educational Disparities & Urban Poor

A large number of projects and programmes were launched to reduce the gender and regional disparities but the problems faced by urban slum dwellers were by and large ignored. Various measures were suggested in different policies and five year plans for the development of rural and backward areas but no concrete strategies were evolved to look into the educational problems of urban deprived. The average socio-economic indicators like per capita income, infant mortality rate, literacy level, and enrolment of the school going children are much better in urban areas as compared to the national average, but the same is not true of the slum areas. The situation in some slum areas is even worse than many rural areas. It is only recently that the government has woken up to the reality and started thinking about the educational needs of this segment of population, which remained neglected for decades. The Ninth Five Year Plan recognizes that the relative inequalities are more pronounced in urban areas and reduction in urban poverty is proceeding at a lower rate. The poverty ratios in the urban areas are projected to exceed those of the rural areas (Govt of India, 1999).

Many children from slum areas do not have access to schools with adequate facilities and teachers who are tuned for teaching the underprivileged. If the remote and backward areas have natural geographical barriers like hills, mountains and adverse weather condition, children of the slum areas have hindrances like busy road, railway track and temporary obstructions. The school may be available within a reasonable distance but the child may need to cross a busy road or railway crossing which becomes an impediment for attending the school. In reality, the supply side constraints in urban settings cannot be removed by considering the physical distance norms alone. It is the settlement structure, social stratification and the population density that play critical role in the demand for amenities and facilities. A major administrative problem is the location of schools at the demand points. Therefore, overcrowding in schools has emerged as a major issue in urban settings especially in the schools serving the urban poor.

The implications of the medium of instruction have not been adequately examined especially from the viewpoint of learning styles of slum children. Since most of the people living in the slums are first or second-generation migrants, their mother tongue is

generally different from the medium of instruction (Hindi in case of Delhi government schools). As would be observed later, this is a major reason for communication problems between the students and teachers.

For the purpose of the present study, we have selected four slums of Delhi for developing an understanding of the educational facilities and levels of learners' achievement. The study tries to find answers to such posers as: Do the children in slums have access to schools with satisfactory and appropriate quality of infrastructure, teachers, facilities and teaching-learning resources? How much do these children learn? How do the learning outcomes vary between the schools under the same management but working in different geographical areas? Do the slum children perform differently in government schools as compared to children attending the same type of schools in other areas? Such an analysis acquires significance, as there is not much research into teaching-learning styles and characteristics of the schools serving the urban slum population.

1.7 Objectives of the Study

From the above discussions, many social, economic and organizational factors associated with education of the urban poor have been identified. While there are many issues related to the provision of educational and other facilities for the slum population, the existing literature is particularly inadequate to develop a broad understanding of the learning outcome of children living in slum areas. In the absence of such information, the planning for quality improvement and its effects cannot be adequately assessed. Therefore, the study examines the differential outcomes of various schools serving the children living in slums. The study estimates the average performance of students on the competency based tests in language and mathematics at the end of both Grade I and the penultimate Grade of primary education. This study also examines the situation with respect to the home factors, school environment and adequacy of facilities in the selected schools. The association between these factors and learning outcomes is also examined within the stipulated constraints. Finally, the study makes recommendations to improve the educational attainment among the children living in slums.

The main objectives of the study are as follows:

- Examine the achievement scores for the 1st and 4th Grade competencies in language and mathematics;
- Examine the intra-school and inter-school variations in mean percent achievement scores;
- Analyse the availability of schooling infrastructure, teachers and other facilities in the selected schools;
- Examine the family characteristics of children belonging to slum areas; and
- Present an analytical frame based on the analysis of achievement scores, family characteristics and the school related factors for the slum students.

1.8 Methodology and Framework of Analysis

Before developing the research frame, secondary sources such as books, articles and research studies were consulted for the better understanding and knowledge on the subject. These sources were useful in the formulation of theoretical framework for the study. However, the findings of the study are primarily based on the empirical evidences collected from sampled schools and households.

1.9 Tools of the Study

Following tools were employed for conducting the study:

a) Oral achievement tests both in literacy and numeracy for Grade I achievement levels;

b) Paper and pencil achievement tests both in language and mathematics for Grade IV achievement levels;

c) School schedule;

d) Teacher schedule;

e) Student profile;

f) Household profile of the children living in the slums; and

g) Unstructured discussions with the household members, children and educational officials.

To fulfil the objectives of the study, a number of questionnaire were developed to supplement the achievement tests prepared by NCERT on measuring learning achievement of pupils in language and mathematics. The same tests were also administered earlier during the assessment study conducted in 1999 for a sample of 169 schools (Aggarwal, Delhi,2000).

A questionnaire was also administered to the households of the selected children to understand their socio-economic background. As most of the parents living in the slums were not able to write well, the questionnaire was administered orally by the investigators. The household questionnaire gathered data on family size, occupation, income, expenditure and educational characteristics of the household. It also collected data on the educational background of the family members and their educational aspirations about the child. The school questionnaire pertained to questions on the infrastructure and physical facilities available within the school, teaching methodology and classroom processes. Based on the school data, indicators like teacher-pupil ratio, student-classroom ratio, availability of teaching aids and their use in the curriculum transaction, were also calculated. It is important to mention here that the achievement tests based on competencies of Grade I and Grade IV were administered at the beginning of the session to the students of Grade II and V respectively who had completed the previous grade successfully. Since data was collected at the beginning of the academic session, complete data on enrolment and admissions could not be obtained. The admissions continue for a few months from the beginning of the session.

The study was conducted in four slums selected purposively from different parts of Delhi. The religion, caste and occupational characteristics do differentiate various slums and also clusters within the slums. All these factors have significant influence on the choice of schools and the parents approach to the education of their children. Not all children from the slums go to the government schools. Many children from the slums are also attending private unrecognised schools and their parents have a more open attitude and feel that government schools do not provide the right type of education. In view of these

factors and lack of basic information on slums characteristics, it was decided to select a purposive sample. Slums were identified on the basis of location, religion and socio-economic variations.

Based on an earlier experience of dropout and out-of-school children in Sanjay Colony (Chugh, 2002), it was decided to include this slum in the present survey also. Even though the male literacy rate was about 70 per cent in Sanjay Colony, about 35 per cent children were out of school.

To highlight the cultural and religious contrast, Nangla Manchi slum, which is dominated by Muslims, was taken up for the study. This slum falls within the NDMC area and is close to some prestigious housing complexes. National Institute of Urban Affairs has conducted a number of surveys in different slum areas like Kalyanpuri and has given in their PLA reports that the conditions of slums in Trans-Yamuna are worse and deplorable. Income levels and educational levels are particularly very low in the slums of these areas. To make a cross comparison between slums at different developmental levels, the slum of Kalyanpuri from Trans Yamuna was selected. The North Delhi especially Rohini, has seen the emergence of a large number of cooperative housing societies in the recent years. As the large numbers of migrants are engaged in the construction work, a simultaneous growth of slums was also witnessed in this region. To give a full representation to the city of Delhi, a slum was also selected from this part (Banuwal Nagar Slum).

Achievement tests were administered on the children who had completed Grade I and Grade IV and were attending Grade II and Grade V. In the first instance, a section was selected randomly. In the second stage, the students from the selected section were chosen randomly. A maximum of 30 children per section were selected for the conduct of achievement test. In all 415 children from Grade I and 372 children from Grade IV were administered the achievement test.

Detailed data was collected from all teachers on their educational and other characteristics. In each school, data was also collected from the Headmasters/Principals of the primary sections/classes. Two types of data were collected from Headmasters/Principals, pertaining to a teacher and the head of the institution. Other

teachers were selected from amongst the group of teachers teaching the Grade I and Grade IV students. In all, data from 56 teachers was collected in 16 schools.

Detailed information about the socio-economic and educational characteristics of the family members of the slum children studying in Grade V was also collected to develop an understanding of the association between mean achievement score, home and school factors. In all, data from 372 households was collected. The following figures present the summary of the sample chosen for the study

Number of slums selected	4
Grades for which the achievement test was conducted	Ist and IVth Standard
Total number of schools selected	16
Total number of children selected from Grade I	415 (maximum 30 per section)
Total number of children selected from Grade IV	372
Total number of teachers selected from schools	56
Household profile of the IVth Standard children	372

Various types of analysis were performed on the data under Microsoft Excel and SPSS package. Average or the mean scores were computed for the schools under study. The main findings of the data are presented in the subsequent chapters.

CHAPTER 2
SOCIO-ECONOMIC AND EDUCATIONAL CHARACTERISTICS OF DELHI AND THE STUDY AREA

2.1 General

The National Capital Territory of Delhi is spread over an area of 1483 sq km. The population of Delhi was 9.4 million in 1991, which has increased to 13.8 million in 2001 showing a decadal increase of 46.31%. The sex ratio (females per thousand males) was recorded as 821 females in 2001 against the average of 933 at all India level. Analysis of the population by age (2001 Census) indicates that 0-6 years old children constitute 13.96% (13.63% males, 14.37% females) cent of the total population of the city. The population density increased from 4194 in 1981 to 6352 per sq km in 1991and to 9,294 per sq km as per the census of 2001, which is the highest in India. The population of the city is still increasing at a rapid pace due to the natural growth of its own population and in-migration from the neighbourhood states of Uttar Pradesh, Madhya Pradesh, Bihar, and Rajasthan etc. This phenomenon has a multifarious impact on the housing, employment opportunities and civic problems in the city, such as poor supply of drinking water, shortage of electricity resulting in long spells of load shedding, poor transportation, sanitary and sewerage facilities. The formation of National Capital Region has not helped much to decongest Delhi. The other towns in the NCR are also faced with unprecedented growth and shortages and mismatches between the demand and supply of various civic services.

This population profile of Delhi provides a backdrop for effective planning of the infrastructure and social needs of the people including health and education facilities. Further, it also helps in understanding the status of the marginalized population living in the slums of the city and the specific inputs needed for their welfare and development. As already mentioned, the vulnerable marginalized population, which predominantly lives in the slums, has also increased from 4 lakhs in 1971 to 32 lakhs in 1998 (DDA Slum Wing).

2.2 Education Scene in Delhi

The latest educational statistics of Delhi pertain to 1999-2000 and the same have been used in the study. Literacy rate for the city of Delhi is very impressive and better than the national average. It was 81.82 percent in 2001, 87 percent for males and 75 percent for females. Field visits and micro level studies indicate that most of the illiterates reside in the slum areas.

The number of students in primary grades increased from 3.7 lakhs in 1970-71 to 13.2 lakhs in 1999-2000. For upper primary grades, the number has increased by about six times between1975-76 and 1999-2000, (0.86 lakhs to 6.23 lakhs).

The number of primary and secondary schools has been consistently increasing over the years but the expansion has not kept pace with the increasing population. The number of primary schools increased from 1355 in 1970-71 to 2676 in 1999-2000. The increase in the percentage of upper primary school was 47.9 per cent during the same period.

The total number of teachers was 14,772 in 1975-76 at the primary stage, which increased to 34,056 in 1999-2000. For the upper primary schools, the number increased from 4433 in 1975-76 to 8710 in 1999-2000. All the teachers employed in the government schools are trained. The female teachers at the primary stage accounted for 62 percent and at upper primary stage 65 percent.

Despite the increased enrolment, the Gross Enrolment Ratio was 84.20 percent in 1999-2000 at primary level and 71.7 percent at upper primary level. The Net Enrolment Ratio for primary level was 68.4 in 1997-98. The NER for boys and girls was 73.2 and 63.9 percent respectively. This means that about one in every three children in 6-11 years age is out of school. The out of school children comprise of two groups i.e.never enrolled and dropouts. The data on the spatial dispersion of out-of-school children in Delhi is not available but in all probability, such children would be found in slums and areas dominated by the poor.

Besides the non-enrolment, a major reason for low NER is also the low internal efficiency of the educational system. It is found that many children, even if enrolled, do

not complete the primary education cycle. Dropout and repetition are the two major factors, which lead to educational wastage. According to the MHRD estimates of 1997-98 (Selected Educational Statistics 1997-98), 1.5 lakh children of 6-11 age group and 1.7 lakh children of 11-14 age group in Delhi were out of the school system. The total dropout rate was 23.13 per cent (Grade I-V) in 1998-99. The dropout rates were 27.56 per cent for girls and 18.89 per cent for boys. Micro-level studies (Nayar 1998, Chugh, 2002) report that the dropout rates are much higher among the slum children.

To meet the educational needs of the growing child population in the slum areas, opening of new schools and the upgradation of the existing ones are essential. The existing government schools in the slum areas are already overcrowded and are not able to accommodate additional children. For opening of new schools, availability of funds and land is the major constraint. The task becomes all the more difficult when there are a number of agencies and departments involved in looking after the academic and administrative functioning of the education system.

2.3 Management of Education in Delhi

The Lieutenant Governor, who is also the Administrator of the Union Territory of Delhi and is a direct appointee of the Union Government, heads the Government of National Capital Territory of Delhi (GNCTD). Delhi too has an elected assembly with Chief Minister as the head assisted by the Council of Ministers. Department of Education is headed by the Secretary (Education), an IAS officer.

Educationally, GNCTD has been divided into four administrative units namely, Delhi Administration, Municipal Corporation of Delhi, New Delhi Municipal Committee and Delhi Cantonment Board. Municipal Corporation looks after the pre-primary and primary education, whereas the responsibility for the upper primary and secondary education vests with the Directorate of Education, Delhi Administration. NDMC looks after the primary and secondary education schools lying under its areas.

MCD is responsible for the management of primary education in Delhi. In addition to the government and government-aided schools, there is a number of unaided and unrecognised private schools in Delhi. Estimates indicated that private schools accounted

for 26.7 percent (3.4 lakhs) enrolment at the primary level and 17.8 percent (1.1 lakh) at the upper primary level. The contribution of the private sector at secondary and senior secondary levels is substantial, considering the fact that 4 lakh children (53.7 per cent) at the secondary and 3.1 lakh (60.2 per cent) at the senior secondary level are enrolled in the non-government schools. In slum areas, the high growth rate of school age population has given rise to a large number of unrecognised schools. These unrecognised schools have inadequate infrastructural, physical and academic facilities.

Some of the problems associated with the municipal as well as unrecognised schools are that they are ill-equipped, overcrowded and have poor facilities for teaching-learning and extracurricular activities. A large number of schools are without adequate water and toilet facilities. Teaching aids are either not usable or not being used. Majority of the slum children attend the schools in which the teachers have low morale and motivation level. Teachers of unrecognised schools are untrained and lack skills for ensuring cognitive and non-cognitive development of the children. The teachers of these schools too have certain preconceived notion about the children belonging to the slums. Teachers consider that these children are having low intelligence level and are unfit for schooling. They cannot study because of their poor socio-economic status. As a consequence, a large number of them dropout and out of the remaining a considerable proportion do not achieve the competency level corresponding to their grade. The study through the field data tries to find out how many children achieve the prescribed minimum competencies.

2.4 Non-Governmental Organisations and Primary Education in Delhi

As mentioned earlier, no specific schemes or large scale programmes have been launched by the government to look after the educational needs of the children living in urban areas in general and that of slums in particular. Notwithstanding this, a few NGO's have taken upon themselves the task of experimenting with various models of primary and basic education for the slum children. While some have taken up the improvement and development programme, others are trying to specifically concentrate on the educational upliftment and improving health and nutritional status of slum residents. The successful experiences of a few NGO's functioning in the city of Delhi are discussed below.

Ankur Society for Alternatives in Education: Since 1983, Ankur is working with children, youth and women in slums and resettlement colonies of Delhi to realise its vision of imparting alternative education to marginalized children. It is trying to provide education, which acknowledges the realities of the lives of these children and acts as an agent of change. It focuses on developing creativity and critical thinking, self-confidence, group sharing of ideas. Ankur works intensively with 200-300 families in each area, through its learning centres and children's clubs. Child centred teaching is their motto with sufficient space for self-expression and natural growth. The curriculum has been developed through the active participation of teachers, learners and coordinators. It focuses on development of personal and social attributes, acquisition of skills and understanding of concepts, thereby creating a firm foundation for further learning and growth.

***Deepalaya*:** Deepalaya works to emancipate the poor and illiterate people through programmes of education, vocational training and improvement of community health services. It works to give a better life to the weaker and under privileged sections of the society living in the slums of Delhi. It focuses on education for the children and non-formal adult education. About 1630 children are studying in two Deepalaya schools and there are 332 educational centers where non-formal education is imparted. It is involved with 20,000 children and their families and communities, undertaking integrated development of the area. Main interests of Deepalaya are: literacy for all, specially women and children, preventive and curative health care to slum dwellers, and providing opportunities for self-employment. Deepalaya is also active in two of the selected areas, namely, Sanjay Colony and Kalyanpuri.

***Katha*:** Katha has developed a philosophy, which sees integrated development as the only solution to the various problems that the children and women face today. This integrated development encompasses the `LIFE' skills. It endeavours to take to the slums a sound and sustainable lifestyle, based on the combination of old wisdom and new scientific knowledge. To attain the skills, Katha works with the 9Cs. These are: Curiosity, Creativity, Critical thinking, Competence, Confidence, Commitment, Cooperation, Consideration, and Citizenship. The education of the working children and children coming from non-literate families is a major concern of Katha. To make education more

relevant and affordable for most of the slum children, Katha has launched a programme, which interlinks innovative classroom education, relevant curricula, teacher education and teaching/learning materials, development with a whole range of activities that are pro-poor, pro-child and pro-sustainability. The Katha school of entrepreneurship is dedicated to improving the standards of education for girls and boys in one of the largest slums located in Delhi, aimed at taking children of the labour force into full time education as far as possible. Katha also provides in-service and pre-service training of teachers to improve the quality of teaching for the slum children.

***Sharan*:** Sharan was established when Delhi was gearing up for the 1982 Asian Games. The city was not equipped to cope with the large migrant population mainly labourers. This resulted in the mushrooming of slums all over the city. The increasing number of slums combined with inadequate housing, lack of sanitation, drinking water and poor health facilities, were emerging as major problems of Delhi. Over the years, Sharan has been working closely with the poor people of Delhi in areas related to the community development programmes, focusing on health, nutrition, education and employment.

Sharan also operates some primary education schools within the slums. The basic aim is to generate an awareness about the need for literacy and education by opening a school right at their door-step so that one parent may emulate another and send his/her ward to the school as they see the visible gains of doing so. The students work in association with the teachers to develop street plays, dramas etc, with the objective of highlighting social issues. Sharan believes that it is pragmatic to integrate with the government run schools rather than create an alternate structure for providing schooling to the children. They feel that NFE model is non-acceptable to the communities and due to material constraints and non-availability of trained teachers, it is better to admit children into government run schools and help them in improving their quality. Sharan is operating in one of the four selected slums, namely, Nangla Manchi.

***Seva Bharti*:** Seva Bharti operates 940 service projects, such as schools, dorms, vocational coaching centers, mobile clinics, etc. in 190 slum, benefiting 200,000 slums dwellers. It also runs an all India residential schools. Seva Bharti is also operating in Kalyanpuri slums, which is one of the selected areas for the present study.

Prayas: The main interests of Prayas include:

- Care and protection of neglected street and working children,
- Shelter for homeless and needy children, and
- Non-formal education.

Prayas primarily works with children and women of the South Delhi slums. Prayas Juvenile Aid Centre started off by working with street and neglected working children to rehabilitate them and reduce the incidence of vagrancy and delinquency among them. It now also provides specially designed non-formal education package for these children; vocational training and Child Empowerment Programme; indoor and outdoor health care including a nursing home; mid-day meals for those who attend the non-formal education sessions regularly. It is the first NGO to run a juvenile home in Delhi.

Prayas tries to educate and empower the underprivileged through integrated methods so as to initiate and implement progressive change. The major activities of the school run by Prayas are: (a) Imparting creative education; (b) Developing positive attitude; (c) Assistance in mainstream education; (d) Cultural education; (e) National Open School branch; (f) Saturday club for sports; and (g) Income generation schemes and regular medical check ups.

Prayas has its educational centers situated in the slums of Shaheed Bhawan, Labour Camp, Ber Sarai, Lal Bahadur Shastri Camp and Sector-III for R.K. Puram in South Delhi. Prayas believes that non-formal system of education is more meaningful for these children because their needs are different from those of the others. They also believe in mainstreaming but at their own learning centres. The primary objective of the NFE programme is to assist the children in achieving basic literacy, numeracy and social awareness. Co-curricular activities like physical exercise, singing, dancing, crafts and educational games are an important part of the curriculum. Weekly lesson plans are developed after consulting the children as well as the teacher. Most of the teaching material and learning aids are made locally with the involvement of children. These are usually easy and fun to design and are extremely effective in teaching. Bal Panchayats (children's assemblies) and Prayas Samudai Samitis (Community meetings) are an

inherent component of their NFE programme. Prayas' effort in mainstreaming has been very successful. They have regularly sponsored children from shelter homes to study in both government and private schools.

2.5 Profile of the Sample Slums

***Banuwal Nagar Slum*:** This slum is located near Saraswati Vihar, Rohini. It was established with 100 huts in 1980 and now has around 6000 hutments. It has a total population of 11,598 out of which 5,630 are males and 5,968 are females. People are labourers and masons mainly engaged in the construction activities. For 60 percent population, the household income is in the range of Rs 2000-2500 per month. Around 40 percent males and around 90 percent females are illiterate. Migrants are mainly from Uttar Pradesh, Bihar and Madhya Pradesh. A few families from Rajasthan and West Bengal have also settled in this area. The dropout rate for the children of 6-11 years is 29 percent and around 34 percent for 11-14 years age group. Non-enrolment is around 15 percent for 6-14 years age group.

Three government primary schools serve the children from Banuwal Nagar Slum. All these schools are single shift and are located at Saraswati Vihar, Harsh Vihar and Rani Bagh. Banuwal Nagar slum is also covered under project PEEP supported by UNICEF. The project is in operation for the last five years.

***Kalyanpuri*:** Resettlement drive was launched on a large scale in 1979-80 in the city of Delhi and a large number of Jhuggi cluster were granted land in East Delhi commonly known as Trans Yamuna area. Kalyanpuri has a number of resettlement colonies and jhuggi clusters. Four big clusters namely, B1 Indira Camp, Indira Camp, Sanjay Camp and Indira Garden, were selected from the Kalyanpuri and their socio-economic and educational characteristics are presented below.

These clusters have 8000 households with a population of around 45,000. 60 % of the migrants are Hindus, while 40 % are Muslims. They have migrated from the States of Uttar Pradesh (70%), Bihar (20%) and Gujarat (10%). They are mainly working as factory workers, *kabari* businessmen, labourers or masons. The average household income is in the range of Rs. 2000–2500 per month but for the Sanjay Camp, the average income is in the range of Rs. 1500-2000 per month. Around 45 percent males and 75

percent females are illiterate. The dropout rate is in the range of 20 to 25 percent and non-enrolment is as high as 30 percent. Most of the houses are Kuchha or semipucca with no water and sanitation facilities. Children have to walk one to three kilometres to reach the school.

Kalyanpuri is served by three government schools, all of which are double shift. These are located in Block No 12, Block No 16, and Block No 19. Deepalaya and Sewa Bharti are among the active NGOs working in this area.

Nangla Manchi: Nangla Manchi is situated amidst the posh area of South Delhi (Near Pragati Maidan) with about 6,600 households having 33,000 persons. Around 65% of the population is Muslim migrants from the States of Uttar Pradesh, Madhya Pradesh, Bihar and Gujarat. Around 50% of population is engaged in private jobs, 30 % are working in the gas plant factories and around 20% are auto drivers. The average household income is better than of the other slum areas. The average household income ranges from Rs 2500 to 3000. Around 65% of them are illiterate and the illiteracy rate for women is as high as 78 percent. Dropout rate is around 13% and every third child is non-enrolled. The dropout and non-enrolment rates are higher for girls. Dropout rate for boys is around 10 percent and for girls it is around 15 percent. 20% of the 6 to 14 years of boys are not attending school and around 31.5 percent girls are out of school. The two schools serving the Nagla Manchi are: Shershah School (double shift) and Kaka Nagar (single shift) and located at the distance of 4 to 6 km.

Nangla Manchi slum is also covered under project PEEP (Primary Education Enhancement Project) supported by UNICEF. The SCERT, Delhi, is the nodal agency implementing the project in Delhi. The project has been in operation for about five years by now. Other agencies working in this slum are Sharan and Jan Shakti. With the presence of so many agencies, the status of primary education in the slum remains depressed.

Sanjay Colony: Sanjay Colony is situated at the extreme end of South Delhi in Okhla Phase II, behind Kalkaji Depot of DTC. It is surrounded by the factories and industries of Okhla and amidst the effluent sewerage, and thick smoke emanating from their chimneys. Environmentally speaking, the inhabitants of this locality, like other slum dwellers, live on the edge of ecological disaster. It has around 5460 households with a population of

20,000. It appears a better slum as most of the houses have semi-pucca structures. Similar to any other slum, it is also devoid of basic amenities of electricity, water, sanitation, health and education. Most of the migrants hail from Uttar Pradesh, Bihar, Rajasthan and Madhya Pradesh. Due to the nearness to factories, a large percentage of population is working in them. Besides factory workers, Kabari business and embroidery work for the garment houses are the major occupations of these residents. Average household income for 70 % of the population is between Rs. 1500- 2000. Educational status of males is much better than the females. Around 34% males are illiterate whereas 74% females cannot read or write. Around 15% school going boys and 21 % girls dropout before completing the elementary education. Children of this slum are served by one MCD primary school, located within the locality. Schools do not exist within the slum for rest of the selected areas and the children are enrolled in schools located outside the slum area.

Two government schools, both double-shift, serve Sanjay Colony. The names of these schools are: MCD Primary School, Harkesh Nagar, and MCD Primary School, Sanjay Colony. Two important NGOs, namely, Deepalya and Prayas are also working for educational development in Sanjay Colony.

It is evident from the profile of all slum areas that the educational status of adults is low. Most of them are engaged in unskilled, private jobs. The dropout rate and non-enrolment is high for the school going children. The question is that of children who survive in the system, how many of them are able to achieve the learning competencies corresponding to the grade? The ensuing chapters will try to look at this aspect through the field level data.

CHAPTER 3

A- HOUSEHOLD PROFILE

Household profile tries to encapsulate the socio- economic background of the children. The household questionnaire forms an important component of this study because household educational decisions determine the utilisation of available educational facilities (whether to send a child to school or not, and whether and when to withdraw a child from school). These educational decisions are governed by the domestic circumstances. In India, especially in the poor sections of the community, education cannot be taken in isolation. It has to be seen in the wider social context. Thus both home and school factors are important for determining the educational status and attainment of the child. Keeping in view the close relationship between these two factors, the survey of the sampled households becomes a significant part of this study.

Socio-economic and occupation related information was collected from the households of the children, as children are many a time not able to give details about the occupation, educational status and monthly income of their parents and other siblings. The findings relating to socio-economic details are discussed below:

3.1 Family Size

The average size of households is 5.97 persons per family suggesting that most of the families have 6 to 8 members. A larger family size implies higher dependency ratio, making it difficult to afford the education of all the children and pay due attention to them.

3.2 Household Income

Analysis of the income is very important, especially for the economically backward people as large amount of their income is spent on meeting the basic requirements. Education of children becomes the second priority, as it is difficult for parents with low income to incur expenditure on of stationery and uniform. It becomes all the more difficult if they have two or more school going children. The income level of the household is calculated by clubbing the total income of all members of the family.

Around 69 per cent households had one family member working, around 24 per cent had 2 members working and around 5 per cent had more than 2 family members working. The details of household income and expenditure are given in Table 3.1.

Table 3.1 Income & Expenditure of the Sampled Households

Range (in Rs)	Income (% of Households)	Expenditure (%of Households)
Less than 1000	32.7	36.2
1000-2000	41.9	40.4
2000-3000	14.9	14.8
3000-4000	6.5	5.9
4000-5000	3.0	1.4
5000 & above	1.1	1.3

The average household income is around Rs. 1800 per month for these households. But if we relate the increasing prices of essential commodities with a family size of 6 to 7 members, it becomes difficult for these households to provide for education. They have, therefore, to depend on the Govt schools for the education of their children. Even then around 25 per cent households are spending more than Rs 200 per month on liquor and alcohol. As far as occupation of father is concerned, around 57 % are engaged as skilled or unskilled labourers, had irregular jobs and low income. If we compare the income of the urban slum dwellers with their counterparts in villages, they are better off. However, considering the city living standards, expenditure accommodation and transportation, they are poorly placed.

3.3 Environmental Conditions in Slums and Their Impact on Children

Justice P B Sawant has clearly mentioned that shelter for human beings is not mere protection for his limb and life. It is in his home where he has opportunity to grow physically, mentally, intellectually and spiritually. Right to shelter, therefore includes right to adequate living space, safe and decent structure, clean and decent surroundings, sufficient lights, pure air and water, electricity, sanitation and drainage facilities. Slum

people are devoid of all these essential physical facilities and they are always living under the fear of 'unsettlement'. Around 63 per cent of the sampled population have only one room and 29% two rooms only. Rooms are dingy, small and without proper ventilation. Only a few have the toilet facility at home; only around 10 % people, have individual tap water supply, the rest of them are dependent on the community tap and tanker water. Around 45 % spend one hour daily and around 15 % take 2 hours daily to collect water. When asked further it was found that 25 % students were given the major responsibility of collecting water. Girls are to help in the domestic work daily. Unless the developmental programmes are initiated in slums, it would be very difficult for these children to come up to the expected level of learning.

3.4 Educational Attainment of the Parents

The education of the parents and other elder siblings has an impact on the educational progress of the child. The data on educational attainment of the fathers is given in Table 3.2.

Table 3.2 Educational Attainment of Fathers (Grade IV Children)

Educational Level	Percentage
Illiterate	21.6
Literate	22.8
Primary	29.3
Middle	16.8
Secondary	7.7
College	0.8

Around 54 % of the fathers of sampled children are educated, and thus can pursue or help their children in their study. But despite this, the achievement level of the children was low. Mostly the fathers come back home tired after long working hours and have more than one school going children. Therefore, they hardly help the children.

Mothers take major responsibility in the upbringing of their children. Therefore, the education level of mothers is more important for education of the children. The educational status of the mothers of sampled households is given in Table 3.3.

Table 3.3 Educational Attainment of Mothers(Grade IV Children)

Educational Level	Percentage of the Total
Illiterate	65.7
Literate	17.6
Primary	12.2
Middle	1.9
Secondary	1.3

The above data speaks sufficiently about the educational backwardness of women. Around 73 per cent mothers are either illiterate or literate only. Thus they cannot help the children in their studies and as such it reflects on the achievement levels of children. The schools of these areas need to take additional responsibilities and work more efficiently to help these children. But in reality, they are malfunctioning with low teacher motivation and no accountability.

3.5 Aspirations About the Education of Children

The parents of all Grade IV learners were asked a question regarding the educational aspirations of their wards. They were asked whether they would like them to study up to primary, middle, secondary or other higher levels of education. It was encouraging to note that most of the parents wanted their children to study up to secondary and senior secondary levels. Table 3.4 depicts the levels up to which the parents expect their children to study.

Table 3.4: – Expectation of Parents as to the Study Level of Children

Level	Percentage of the total
Primary (Upto Grade V)	1.6
Middle (Upto Grade VIII)	8.3
Secondary (Upto Grade X)	24.9
Senior Secondary (upto GradeXII)	30.8
Upto College	21.7
Professional Course	12.7
Not interested in studies	0.3

The data clearly reveals that there is general awareness about the importance of education among these deprived groups. They would like their children to study. The parents want their children to break the vicious circle of educational backwardness and obtain higher education. But the household and school environment where these children go, put constraints on them and as a result a large number of children dropout before completing the primary or upper primary levels. And those who survive do not achieve the competency level corresponding to their level.

3.6 Reasons for Disinterest of Children in Studies

Although most of the parent expressed the desire that their children should study up to higher levels, but the children do not want to study due to various reasons. The parents responses as to the reasons of disinterest of a child in studies, are recorded below in Table 3.5.

Table 3.5 Reasons for Disinterest in Studies

Reason	% of the Total
To help in domestic work	14.5
Interested in employment	9.7
Interested to work with parents	3.4
Child not interested in studies	20.6
Difficult to afford school related material	15.3
Sickness of the child	2.9
Callous attitude of teachers	7.0
School is far off	13.9

The above table clearly speaks that accessibility is still a major problem in the urban slum areas. Although school may not be very far off but due to busy main roads, railway track, and the child has to travel a long and risky path. Another major school related factor for the disinterest of a child is that the teachers do not teach properly and sometimes the child finds the school environment unfriendly and oppressive. As a result he/she loses interest in studies. Around 21 per cent parents reported that child was not

interested in studies because of reasons like poor comprehension of the subjects, or his/her friends not going to school etc. Around 15 percent said that it was difficult for them to meet school related expenditures. It clearly implies that the incentive schemes like the provision of free uniform, free supply of textbooks are yet to be implemented effectively to benefit the poor. Around 15 per cent children are required to help in the domestic work, as elder siblings are generally needed to look after the younger siblings and when both the parents are working or the mother is sick, the girls are required to learn the household work. In short disinterest in studies leads to low achievement or dropout from the system.

B- STUDENTS PROFILE

Students profile tried to capture the responses of Grade IV children on the functioning of the school and the teachers. It also helped to ascertain the academic support of the family to the children of IVth standard. Data was gathered from 372 households on variables, like the time taken to reach the school, help provided by the family in the education of the child, expenditure on tuition, regularity of teachers in coming to the classrooms, checking the homework, availability of books and other instructional materials.

The distribution of the learners show that 58.8% were boys and 41.2% were girls, 37 per cent belonged to SC, 1 per cent to ST, 34 per cent to OBC and 27 per cent were from the general category.

3.7 Distance of the School

As far as the access to school in the neighbourhood is concerned, it was found that majority of the children walked (82.8%) to reach the school. Around 12.4 percent used local bus and 5% arranged for other means of transport (auto rickshaws or private scooter) to reach the school, and around 11% children had to spend more than 30 minutes to reach to the school. For the children of Nangla Manchi, the school not being located in the neighbourhood, they have to travel by bus or walk a long distance.

3.8 Pre-Primary Education

Early childhood care and pre-primary education has been greatly emphasized in National Policy on Education (NPE) 1986 for the achievement of UEE. Pre-primary education tends to develop the sharing of fun and pleasure among the children, which facilitate in the enrolment and retention subsequently. It has become especially an urban phenomenon and private pre-primary schools are charging high fees for preparing children for admission to the formal schools. However, in the slums, due to the non-awareness and non-affordability, very few children attend such schools. Around 15% children from the selected slums went to the Anganwadi or Balwadis and remaining 85% did not attend any pre-primary school.

3.9 Parental and Other Members' Academic Support

Considering the fact that there is high illiteracy among the slum dwellers, especially among women, children face more difficulties in pursuing their education. Even if the children manage to attend the school, they remain deprived as they do not receive academic help from their parents. With poor school functioning and no help from the parents impact greatly on their academic achievement. Data from the field also reveals that around only 39% children get help from the family members in their studies. About 14.8 per cent children are helped by their fathers, 17.5 % by their mothers and 7.3 percent by their elder siblings. However, many a time the parents not fully help them and the children have to depend upon the tutors.

3.10 Tuitions

While looking at the mushrooming growth of tuition centres in the city, there is a growing awareness among the slum dwellers that children cannot learn from the school only. They need additional support if they have to perform well in the school. They are also conscious of the fact that their children are being provided inferior quality of education. Their children attend the school where the teachers' motivation level is low and therefore the children are not taught properly. To compensate this, private tuitions are becoming very popular even among the slum dwellers. The field level data also shows that around 41% children were taking private tuitions out of which around 18% had the tuitions for the whole year and 23 per cent were having for a few months only. Most of them were taking tuitions in a group of more than five children. When the causes for taking tuitions were probed, it was revealed that most of them intended to get more marks in the examination. Around 12 percent attended tuition with an aim to understand the subject, while a few of them said that their teacher did not teach in the class and compelled them to take tuitions. Some of them needed help to complete the homework. Out of those children who were taking tuitions, around 55 % parents spent less than Rs 100 per month on the tuition and around 44 % spent between Rs 100 and 200; only 6 % parents reported to be spending more than Rs200 on tuition.

3.11 Age of Learners

Child is admitted to Ist standard at 6 or 6+ age and by the time he/she reaches IVth standard, he/she should be about10 years of age. The age of learners is depicted in Table 3.6.

Table 3.6 Age of Children Studying in Grade IV Standard

Age (in Years)	No. of Children	% of the Total
9	23	6.2
10	148	39.8
11	103	27.7
12	53	14.2
13	41	11.0
14	4	1.1
Total	372	100

The above table depicts that around 46 per cent children were of relevant age group for the Grade IV. More than 50 per cent were over-age. It is probably due to the fact that either children are admitted late for causes like visit to native place, sickness, adverse household circumstances or they repeat the same grade.

3.12 Availability of Instructional Materials

The teaching-learning process in the schools is still dependent upon the textbooks. Teachers always refer to the textbooks as these provide prescribed syllabus. The subjects taught at primary stage include language, mathematics, science, and social studies. Each subject has a separate book. Availability of textbooks is a prerequisite for the learners to learn. The findings on this aspect were encouraging, which is clear from Table 3.7.

Table 3.7 Availability of Textbooks

Subject Book	Yes	No
Hindi	347	29
Maths	332	40
Science	334	38
SST	334	38

Around 10 to 15% children did not have one or the other subject book. As the survey was conducted in the month of April, a few children had still not purchased the books. Around 85 per cent children reported that they obtained the books from the school free of cost, only 13 per cent purchased these, and 2 per cent borrowed from other children.

3.13 Provision of Midday Meal and Other Incentives

To enhance the enrolment and retention, Government of India has been launching various schemes and programmes for the benefit of the underprivileged and poor. Supply of free textbooks, uniforms, and midday meal are some of the incentives given to enhance the enrolment and retention, especially at the primary level. Around 45 per cent children reported that they were getting regular supply of midday meals. Children of two schools particularly said that the supply was irregular, insufficient and of poor quality. Most of the children received free textbooks but very few children got uniforms from the school.

3.14 Regularity in Attending School

Jyotsana &Jha in their report have stated that there is a need to redefine Universalisation of Elementary Education. It should include universal enrolment, regular attendance and sustained participation. Regular attendance keeps the child disciplined, well versed with the curriculum and continuity in studies. Among the children of slum areas, a particular phenomenon is noticed that they remain absent for a long time when their family goes to their native home. Many a time they go away without informing the school. When they return either their name is struck off or they lose track of the school syllabus. When a child attends school after a long absence, he/she would have been out of touch and also would have missed the studies at school. This loss cannot be compensated, as no academic support from the family is available. At the primary level, they cannot share among themselves. Therefore, certain concepts and skills remain unclear, leading to poor comprehension and poor performance. Around 63 per cent children had missed school for less than 10 days, around 32 per cent had missed between 10 and 20 days and around 4.5% had not come to school for more than 20 days. Around 15% reported that they had

gone to the native village and over stayed. Absence due to the sickness is related to the poor environmental and sanitary conditions in which these children stay. Slums are devoid of basic physical facilities, leadings to various diseases like diarrhoea, typhoid, measles etc. Around 25 per cent of the absentees were those who could not finish the homework or classwork of those days. Around 37% children took the help of teachers and fellow students to fill the gaps of these days they were absent from the school. Rest of them managed the work either with the support of the family or the tutor.

3.15 Parents Help in Studies

Learners achievement greatly depends on the motivation, regularity and interaction of the teachers. Classroom process implies the course of action and kind of activities that take place in the classroom. School building, availability of instructional room, space to sit, teaching-learning materials and ancillary facilities like drinking water, toilet are the essential components of the physical aspect of classroom climate. Most of the studies conducted in the field of learning achievement level of children concentrate on the school inputs and background information of learners. These studies assume that given the same inputs, the outcomes will be same. Anitha (1993) tried to investigate the classroom processes in nine different schools. After observing each school for fifteen days, it was found that there was a wide variation in the classroom processes although the schools had comparable physical and human resources. The present study tries to investigate the regularity of teachers in schools, in classroom and the method of their transactions.

88% children reported that teachers came to the classroom regularly and 10% said that most of the time the teachers came late. Around 58% children were of the opinion that the teacher explained the subject topic in the classroom, and around 42% reported that the teacher seldom explained or never explained. It is surprising that the teachers were more or less regular and explained but still the achievement level was low and not upto the mark. Around 75% children reported that they were able to read what the teacher wrote on the blackboard and around 15% could not understand it. But the achievement test results were still very low which implies that the children were weak in application. We wonder if some remedial measures are being taken to overcome their weakness and difficulties.

For teaching math, it is necessary that the teacher explains the concept and demonstrates it on the blackboard. Around 38% children reported that the teacher never wrote math sums on the blackboard and 49% children reported that teachers did the math sums on the blackboard. The field data reveals that a considerable improvement in the curriculum transaction and classroom processes is needed. It is essential for the teachers to make use of the teaching aids like blackboard, chalk, chart etc. for enhancing the comprehension level of the children. Around 63% children reported that they were not able to grasp what the teacher taught in the classroom. The actual time devoted for classroom teaching has great significance for student learning rather than the scheduled learning time. The schools have the working days and hours well prescribed. However in practice it has been found that a considerable amount of time is not utilized due to various reasons, like the absence of teachers, teachers' involvement in census work, departmental work, etc. Therefore, the actual time for teaching remains much less than what has been prescribed.

The time is calculated in terms of the engagement of learning groups by the teachers. In a study of Kerala DPEP districts, the following estimations were made of the loss of instructional time.

- Average loss in government schools More than one out of every three days (.385).
- Average loss in the private aided schools Less than one out of every twenty days (.045).
- Average loss in the tribal schools More than two out of every five days (.411).

An analysis of the reasons thereof reveals that the most common cause for large-scale loss of instructional time, i.e, in periods, sessions and days, is either the delayed start of the school or the early closure of the school or the non-availability of the teacher to the students of a particular class. Keeping the children busy in some namesake activity and unmonitored classroom where children are engaged in play than learning are the other major reasons. The data from the field reveals a loss of opportunity time. Around 52% children replied that in the absence of teacher, the class monitor is made the in charge, while 33% reported that two classes are often merged together. Under such circumstances instruction on planned activity is not given and there is loss of opportunity time. When further probed on to what happens in the classroom even while the teacher is

present around 45% children said that the teacher asked them to write a page in Hindi regularly, 67% students were of the opinion that mathematics sums were given regularly, and 82% responded that they were checked regularly by the teachers themselves. However, to verify the responses, a few of the notebooks were checked. It was found that they were duly signed in most of the cases but the mistakes were rarely pointed out.

Children of the public schools are better performer not only due to the socio-economic condition but also because they are helped in their studies by parents, tutors and teachers. Even if the first-generation slum children manage to attend schools, they remain deprived, as their parents cannot assist them in studies at home and also fail to bear additional expenditure required to purchase supplementary materials like help books, instructional materials and good private coaching. Around 23% children responded that they did not receive any assistance if they failed to understand the content matter. About 50% tried to get the clarification from the teacher and rest depended upon the family members, tutors or peer group

3.16 Nature of Homework

Due to time constraint, all the questions and problems cannot be sorted in the classroom. Thus homework is an important assignment for the children as it gives them more time to understand the topic. Around 78% children mentioned that their teachers gave them homework regularly. Around 52% students mentioned that it took about half an hour to two hours to complete the homework, depending upon the number of subjects and the question given on a particular day. While around 38% reported that it took them less than 30 minutes to complete the homework, around 8% replied that they never did the homework. On the homework being checked by the teachers, around 72% children reported that it was checked regularly. To verify this response a few of the notebooks of the children were seen by the investigators. These were found to have been duly signed by the teachers but the mistakes were not pointed out. Around 88% children mentioned that they were punished if they did not complete the homework.

3.17 Teachers Behaviour

National Policy on Education (1986) and Programme of Action emphasized on joyful learning and congenial atmosphere in the classroom. The teacher should act more as a facilitator rather than as a proactive. Around 82% children reported that they were afraid of the teacher for the scolding and beating. More than 60% children mentioned that they were beaten by the teacher. Scolding and beating creates an oppressive environment in the classroom and many a time the children are not able to concentrate leading to poor comprehension and disinterest in the studies.

3.18 Subjects Difficult to Comprehend

Around 60 percent children reported that they found maths to be the most difficult subject and the achievement tests also prove it. Around 20 per cent children replied that they found social studies to be the most difficult subject. Only 1 per cent children found Hindi language to be the most difficult. The curriculum planners, developers and transactors have not given due attention to develop the material in such a way as to make it simpler especially for the first generation learners.

The analysis of the student profile clearly indicates that students find it difficult to understand the maths subject. Less than half of the students are able to afford private tuitions, and more than half does not have any academic support from their families.

3.19 Summary

Profiles of households and children make it clear that school is not still accessible to all the children in the safe zone. Out of four selected slums, the school is located within one slum only. Only 15 percent children attended pre-primary school. Most of the children do not receive any academic assistance and help from their families. Considering the economic background of these children, it was astonishing that 40 percent children were given private tuitions.

More than half of the children were over-age, which could be due to late admission or high repetition rate. As far as the regular attendance of the children is concerned, 5 percent remained absent for more than 20 days and 32 percent missed the school for 10 to 20 days. It becomes an important factor for low achievement, as these children are

basically dependent upon school for learning. Most of the students reported that the teachers were regular, gave and checked homework regularly. These responses appear contradictory when we look at the achievement level of these children. The analysis of the household characteristics of these children reveals that their parents mostly work in unorganized sectors with irregular jobs and low income. Women of these areas are either illiterate or have low attainment of education. Having lived in the affluent city the awareness level of parents is high and therefore they mostly want their siblings to study upto secondary and senior secondary levels. Although the aspirations are high, yet due to socio-economic constraints and the kind of schools their children are forced to patronize, children loose interest in studies. Consequently, the children either dropout without completing the primary education cycle or are not able to achieve the desired competencies.

CHAPTER 4

SCHOOL AND TEACHER PROFILE

4.1 School

As mentioned earlier, the schools in the sample were selected purposively. Only those schools which were either located within the selected slums or where the children from slums studied were included. In all 16 schools were selected. Of the 16 schools, only one was located in one of the slums and the remaining were located outside the slums. Three schools were managed by the NDMC and the remaining 13 schools were under the control of the MCD. In Delhi, MCD is essentially responsible for the management of primary education. However, a few such schools in the NDMC area are managed by NDMC. The schools falling within NDMC area also follow the same curriculum as followed by the MCD schools.

***Accessibility to Education Facilities*:** A unique feature of the government schools in Delhi is their large size and lack of adequate dispersion. Due to constraints of space, the schools have expanded vertically rather than more schools being established viably, and in a well-dispersed manner. The concentration of schools is evident from the fact that there were hardly any schools in the slum areas, whereas the education of children living in these areas is a priority of the government. The children from these colonies have to walk down to neighbouring areas to attend schools. The survey of the slums indicates that while educational facilities provided by the government are at a distance, there are many privately managed schools running from small houses within the selected slums. The access to private schools is selective and is based on the ability of the parents to pay fee and meet other incidental expenses. The direct cost of education in private schools is definitely high as compared to the government schools. However, the same may not be true of the intangible benefits accruing from the government and private schools.

***Infrastructure Constraints*:** The government schools were established long ago and over the years have expanded at the same site. Due to pressure on land for commercial purposes, the government is not able to establish many new schools to meet the growing demand from the unserved population groups. All the schools in the study area were established when the demand of education by the slum population was negligible.

However, the present scenario is different and all children are expected to attend schools. But where are the schools? Large schools are at locations, which are not conducive for the slum children. How do they go to school? By walking and crossing many man-made hurdles.

Some schools operate double shift to overcome the increased demand from the neighbouring areas. The double shift schools are sometimes segregated in terms of gender. Two shift schools provide education for boys in one shift and to girls in the other shift. This is not an ideal solution as far as children are concerned, since there are alternative ways available of organising double shift schools.

***School Size*:** On an average, a school in the study sample had 24 classrooms. The maximum number of classrooms was 33 in a school in Rani Bagh. Many schools had as many as 8 classrooms. All schools had separate sections for each grade. Many schools had multiple sections for the same grade. Therefore, some of the school size is not a constraint. In fact some of the schools can be classified as over-crowded. Many of the schools in the study area cannot accommodate more children. There were instances of refusing admission to children, as there was hardly any sitting place.

Enrolment: The enrolment statistics do not fully reflect the real picture as the admissions were still continuing when the data collection took place. Therefore, the actual admission, particularly in Grade I could be much higher than what is reported in the data. A total of 8930 students were registered in various grades of the primary schools. The average enrolment per school was 525 children and the minimum and maximum enrolment was reported in Kaka Nagar school managed by NDMC (266 students) and Sarasvati Vihar school respectively (1001 students). Therefore, all the schools can be described as large. The large schools have certain economies of scale in terms of provision of teachers and facilities but at the same time present a challenging situation for the management. Maintenance of quality of teaching and learning in large schools can be a problem due to the heterogeneity and other associated factors.

***Pupil Teacher Ratio and Student Classroom Ratio*:** There are norms for the appointment of teachers and these are related to the enrolment in different sections and grades. Similarly, the class size is also fixed and is usually related to the number of

sections/grades in a school. Such norms are easy to implement in large schools as compared to smaller schools where minimum number of teachers, classrooms and other facilities is fixed. The pupil-teacher ratio and student-classroom ratio were calculated for all schools (See Table 4.1)

Table 4.1 Summary Indicators of Achievement and School Characteristics

SCODE	Name	PTR	SCR	Maths1	Hindi	Math4	LC4	WM4
01	No.2 Shershah Mess	38	33	63.7	49.4	41.30	37.2	39.5
02	Shershah Mess	33	49	69.4	57.5	28.04	38.8	22.2
03	Kaka Nagar	19	16	60.2	36.5	14.25	23.0	30.1
04	Kalyanpuri	47	54	71.6	67.7	6.97	8.2	38.3
05	Kalyanpuri 12	45	54	53.0	33.5	16.14	34.1	49.1
06	Kalyanpuri 16 I	40	24	42.2	41.0	24.77	6.4	38.4
07	Kalyanpuri 16 II	39	17	60.5	51.6	14.6	26.9	30.2
08	Kalyanpuri 19 I	44	34	54.7	41.4	19.8	33.1	30.3
09	Kalyanpuri 19 II	41	33	51.3	47.1	13.5	24.8	30.3
10	Sarasvati Vihar	39	56	72.0	82.9	41.2	50.2	52.6
11	Harsh Vihar	29	36	59.3	68.3	48.1	52.0	42.6
12	Rani Bagh	25	21	72.9	81.3	27.9	32.0	32.7
13	Harkesh Nagar	40	40	44.3	55.3	20.9	71.8	21.4
14	Harkesh Nagar II	54	36	62.5	57.5	35.6	39.5	45.6
15	Sanjay Colony I	66	74	50.9	49.5	12.9	21.3	26.3
16	Sanjay Colony II	75	85	63.9	54.3	28.4	35.2	35.2

As can be observed from the above, the PTR varies from 19 in Kaka Nagar school to 75 in Sanjay Colony school. Such large variations have serious implications for the learning outcome as well. There is a very high correlation between the SCR and PTR (0.798). The high correlation indicates that the lack of adequate classrooms may be the cause of high PTR in some schools. Teachers beyond a number would find it difficult to hold classes in an urban school. There is hardly any space to hold classes in the open in urban areas. Therefore, the constraint of space/classrooms is playing havoc with the teaching-learning outcomes. The agencies have no solution for this problem. It is very difficult for them to get space for additional schools. No one knows how to address the demand of increased

population of school going children in fast expanding urban areas. In a city like Delhi, the population would continue to grow even when it is shrinking in the rural hinterlands. The expansion is largely due to immigration rather than the natural growth of the city.

***School Organization and Other Characteristics*:** Pre-primary section was not available in all the schools. Six of the sixteen schools had pre-primary section. This was in the form of nursery section. Many schools faced the shortage of teachers, resulting in large class size. All the schools reported the existence of school timetable and all were reported to be following the same.

School Characteristics and Achievement: The school characteristics are sometimes closely associated with the levels of achievement. This is particularly true of high performing schools, which present high association between school, family characteristics and learning outcomes. The mean score was estimated by taking the average of the scores obtained by a student in sampled schools. Then the mean achievement score of the sampled schools was calculated by taking the average score of the subjects per school by using the Microsoft Excel Package. The mean scores for Grade I and Grade IV were correlated with school indicators, like PTR and SCR. The correlation coefficient matrix is presented in Table 4.2.

Table 4.2 Correlation Matrix (School Characteristics and Mean Achievement Scores)

	PTR	SCR	Maths1	Hindi1	Math4	LC4	WM4
PTR	1.00	0.80**	-0.15	-0.12	-0.14	-0.09	-0.05
SCR	0.80**	1.00	0.10	0.11	-0.04	0.10	0.03
Maths1	-0.15	0.10	1.00	0.67**	0.21	0.30	0.33
Hindi1	-0.12	0.11	0.67**	1.00	0.45	0.33	0.49
Math4	-0.14	-0.04	0.21	0.45	1.00	0.42	0.48
LC4	-0.09	0.10	0.30	0.33	0.42	1.00	0.04
WM4	-0.05	0.03	0.33	0.49	0.48	0.04	1.00

** Correlation is significant at the0.01 level (2-tailed).

PTR: Pupil-Teacher Ratio
SCR: Student Classroom Ratio
MATHS1 Grade 1 mathematics mean score
HINDI1: Hindi Grade 1 mean score
MATHS4: Grade 4 mathematics mean score
LC4: Language comprehension mean score (Grade 4)
WM4: Word meaning (Grade 4) mean score

Table 4.2 clearly indicates that mean achievement score in the sampled schools for Grade I has a significant relationship for both the subjects (Hindi language and Mathematics) for which the competencies were tested. Even for Grade IV, the positive correlation in the mean achievement score for both the subjects (language and mathematics) exists.

The correlation between mean achievement scores between subjects and school characteristics is not significantly high. Therefore, it appears that school level indicators, like PTR and SCR are not significantly associated with school level learning outcomes.

4.2 Teachers

The sample covered 57 teachers from 16 schools under study. The selection of teachers was done according to the classes taught by them. Teachers who taught the Grade I and Grade IV in the previous academic year were included in the study. The distribution of selected teachers in the schools is given in Table 4.3

Table 4.3 Distribution of Selected Teachers by Gender

SCODE	Male	Female	Total
01	1	3	4
02		4	4
03	1	1	2
04		3	3
05	3	1	4
06		2	2
07	3		3
08		3	3
09	2		2
10		6	6
11		5	5
12		5	5
13	1	3	4
14	4		4
15	1	3	4
16	2		2
	18	39	57
	31.5%	68.5%	

Other highlights/teacher characteristics are as under:

- Two-third of sample teachers were females.
- Mean age of the selected teachers was 35 years (32 years for males and 37 years for females).
- 81 percent teachers were married.
- 8 teachers belonged to the SC category (14 percent).
- Majority of the teachers (79 percent) were having qualifications as graduate and above.
- 57 percent teachers had studied mathematics upto matric and another 17 percent upto senior secondary level.
- Most teachers had studied Hindi during their educational carrier. 32 percent teachers studied Hindi upto graduation level, 29 percent upto senior secondary level and 26 percent upto matric/secondary level.
- All teachers had acquired professional qualifications prescribe for teaching jobs. 59 percent teachers had acquired graduate level professional qualifications, 7 percent post-graduate level (MEd) and the remaining certificate level professional qualifications.
- All sample teachers, except one, were permanent employees of the MCD/NDMC.
- 86 percent teachers reported that they have availed of professional development courses/training.
- 95 percent teachers stated that all classes are held regularly.
- The selected teachers had taught Grades I and IV in the previous academic session and were currently teaching Grade II and Grade V classes. That means the selected teachers had taught the students whose competencies were tested. Thus the teaching styles and teacher behaviour were good approximation of what was experienced by the students under investigation.

- Nearly half of the teachers were teaching more than one grade during the same academic session.
- Since no subject specialization is required for teaching primary grades, all the four subjects are taught by the same teacher.
- All teachers reported the availability of facilities, like blackboards, chalks and dusters. All teachers stated that they used them regularly for classroom teaching-learning.
- While 80 percent teachers reported the availability of teacher guides, only 50 percent reportedly were using them regularly. About 14 percent admitted that they have never used the teacher guides for preparation and delivery of subject contents. Another 20 percent used the teachers guide sometimes.
- 62 percent teachers stated that dictionaries were available in their schools. However, very small proportion of teachers was using dictionaries regularly (14 percent). 54 percent teachers reported that dictionaries were seldom used and the remaining did not use the dictionaries at all in classroom teaching-learning situations.
- Only 29 percent teachers reportedly were using additional teaching-learning materials during the classroom interactions and teaching-learning situations.
- The use of teaching-learning equipment was less than satisfactory. The use of globes, maps, charts and flash cards was made by a small proportion of teachers. Only 15 to 30 percent teachers reported their use.
- The schools have also been supplied with mathematics and science kits. The use of these kits in the classroom is expected to facilitate teaching-learning. However, about one-third of teachers reported that despite their availability, they were not using these kits in classroom teaching-learning. The study did not seek the reasons for not using the science and mathematics kits but it was learnt that teachers were not comfortable in using the kits in the classroom.

- ***Classroom Teaching Learning Situations***
    - All teachers reported that they used textbooks in the classroom and read from the books and explained the content to the students. All teachers also reported that they also asked the children to read from the textbooks in the presence of the teachers. The teachers then explained the contents. Children were also asked to study and read the contents of various topics from the books. All teachers reported that they regularly gave homework to children.
    - Practically all teachers reported that the progress of the homework was monitored orally as well by manual checking the notebooks.
    - All teachers reported that they specially focused on the weak children during the classroom teaching-learning by putting more questions to the weak students. The teachers further reinforced their efforts by teaching the students who were weak in studies.
    - Practically all teachers stated that they covered environment and its importance in the lifecycle of human beings. They also stated that their efforts were to make teaching-learning interesting and interactive by adopting modern methods of teaching-learning.
    - Teachers also stated that they often consulted the school head teacher or their peer group to strengthen their capabilities in teaching-learning.
- *Follow Up with Low Performing Students*
    - It is not only that almost all teachers stated that they gave high importance to teaching in the classrooms and stated that adequate attention was given to provide feedback to the parents of the weak students.

The foregoing analysis of the data provided by the primary school teachers presents an interesting picture. If the teachers are to be believed, they do not leave any stone unturned to ensure that the children acquire the skills and knowledge expected of them. However, the reality is quite different. If the teachers are performing all their tasks with commitment and due diligence, there is no reason for the children to fail or to perform

poorly. An important conclusion that can be drawn from the data provided by the teachers is that perhaps they have tried to provide misleading information to the surveyors. Since the surveyors had no means to check on the quality and reliability of the data provided by the teachers, not much credibility is given to the data thus provided.

Lack of research into the classroom teaching-learning situation for government schools in Delhi is a major handicap to build the model of teachers interaction in the classroom and the outcome in the achievement tests. It is therefore, suggested that special studies on classroom interaction should be carried by the SCERT (Delhi) with the help of DIETs. Only after the knowledge about teaching learning styles is adequately generated that some meaningful insights into the teacher training requirements can be acquired. Research on classroom processes will also be useful to study the impact of classroom interactions on the learning achievement of the children.

CHAPTER 5
ANALYSIS OF ACHIEVEMENT TESTS: GRADE I & GRADE IV

5.1 Mean Achievement Scores-Grade I

According to the prescribed curriculum for Grade I a child should achieve the proficiency in the counting of objects, addition and subtraction, and preceding and succeeding numbers. To achieve these basic skills, the child needs to have the conceptual clarity and regular practice. Children from the slum areas are primarily dependent upon the school and teachers to make them understand the basic concepts, as there is little or no academic support from their respective families.

Earlier studies have shown relatively higher mean scores for Grade I competencies as compared to Grade IV. The same is true for the present sample of students also. Thus, the issues related to the transition from oral to written mode of communication are also valid for the present study.

The mean score for Grade I competencies was 59.64 percent for mathematics and 55.65 percent for Hindi. Therefore, on the whole, the mathematics competencies were better than language. This is quite in contrast to other findings. One major difference, which may have caused such an outcome, is the manner in which the Hindi tests were administered. While the tests were oral, the children were asked to respond by looking at the picture. They were also required to read the same word from the four options given alongside the question. Any mismatch between the two was treated as a wrong answer. This enabled to relate the competencies of visual interpretation with the corresponding word in the text. Many students were able to identify the picture correctly but were not able to respond to the words. This shows the absence of reading abilities.

Lower Levels of Achievement Among Students Living in Slums

A comparison with an earlier study undertaken by the Aggarwal, Delhi 2000, showed that the performance levels of the schools serving the slum children was much lower than before. The corresponding mean achievement score for Delhi schools was: mathematics 80.2 percent and 78.2 percent for language (Hindi or English). The standard deviation was not much different for the two subjects. As mentioned above, the corresponding

values for the schools covered in the present study were 59.64 for mathematics and 55.65 percent for Hindi. The achievement levels of the children from the slums are therefore, lower by about 26 percent in mathematics and 30 percent lower in the medium of instruction (Hindi in the present case).

The low level of achievement in government schools even in the first year of schooling is a matter of serious concern. The slum children require higher levels of achievement in order to fight for their place in the world of work. While the government tries to offset the under-achievement by various types of concession in admission to institutes of higher education, this policy may be harmful in the long run.

5.2 Mean Achievement Score in Mathematics

Mathematics is always perceived a dreadful and difficult subject. Pervious studies on the learning achievement (Aggarwal, 2000; DPEP) have also revealed the dismal picture of mean achievement scores in mathematics. For the present sample of students, the mean score achievement in mathematics was 59.64 percent.

Low Performing Students in Mathematics

Although the mean scores are relatively low, the variability in individual and aggregated scores continues to be high both within and between schools. Children scoring less than 40 percent in any subject are considered to be under performers. The distribution of students falling in different fractiles is shown in Table 5.1.

Table 5.1 Distribution of Students by Category of Scores, Mathematics(Grade I)

Score (Range)	Frequency	Percent	Cumulative Percent
0-20	4	5.8	5.8
20-40	12	19.0	24.8
40-60	22	24.1	48.9
60-80	58	31.8	80.7
80-100	143	19.3	100.0
Total	239	100.0	

One in every four students is an under performer in mathematics. Almost 24 percent of students attained 40-60 percent scores in mathematics.

High Performing Students

Children scoring more than 80 percent were considered as high achievers. As per the MLL, all children should attain 80 percent competencies, which implies scoring almost the same score. In reality, the proportion of children scoring more than 80 percent in mathematics test accounted for 19.3 percent. This percentage is very low as compared to the targets.

Analysis of Responses to Individual Questions

The low levels of achievement in mathematics have many implications for improving quality of education through various measures. It also affects the study of science and technology in higher education. The first and foremost question that needs to be addressed at this stage of analysis is regarding the response of students to different type of questions and to determine the hard spots in teaching-learning.

Counting of Objects

The first four questions in the achievement test pertained to simple counting of objects. 95 percent children could answer them correctly. Around one percent children did not respond and around 4 percent answered incorrectly. Therefore, as far as counting of objects is concerned, the level of achievement was satisfactory.

Addition and Subtraction

Around 60 percent children could do the simple addition and around 18 percent did not respond to these questions. It implies that the real problems in mathematics start with the addition of numbers. When the children were given two-digit subtraction test, less than half (49.2%) of them could answer correctly. Therefore, even the concept of addition and subtraction is not fully mastered at Grade I.

Succeeding and Preceding Numbers

The data reveals that most of the children had good grasping over some of the concepts like succeeding numbers, greater or smaller numbers, about 40 percent children could not

answer on the related concepts like the preceding numbers. This type of learning outcome is a reflection on the teaching styles. The children are taught forward counting but little attention is paid to recalling the backward numbers.

Response to the Concept of Ones and Tens

It appears that a few concepts like 'one' and 'tens' were not covered fully. Barely one-quarter of children could answer related questions correctly. The same is true of the two-digit addition, and subtraction. It can be said that except for counting and simple addition, majority of the children could not achieve the competencies in mathematics expected of Grade I learners. This is the cause of particular concern because Grade I is the first year of formal schooling and if the foundation remains weak, the subsequent structure cannot be expected to the strong enough to ensure quality learning at higher levels. Therefore, poor quality of learning is one of the reasons for students not completing the primary education cycle.

5.3 Mean Achievement Score in Hindi

Families with different linguistic, religious and caste backgrounds reside in the same slums after migration. Therefore, there exists a cultural and linguistic diversity among the slum dwellers. It was also observed during the fieldwork that after migration most of the families in the slums had learnt the use of Hindi as a means of communication. A large number of the school going children happened to have been born in Delhi. Therefore, the gap between the spoken language and the language taught in the school was not much pronounced. In the Hindi achievement test, the children were supposed to recognize the picture and read the corresponding word depicting the picture.

The mean percent achievement score for Hindi was 55.65. This level of achievement is considered to be much lower than the expected outcome under MLL specified for the primary schools.

Bimodal Distribution of Achievement Scores

The distribution of achievement scores in Hindi shows a bimodal distribution. It implies that there were certain children who performed very poorly and some others performed very well. This is also evident from Table5.2.

Table 5.2 Bimodal Distribution of Achievement Scores, Hindi(Grade I)

Range (% Score)	Frequency	Percent	Valid Percent	Cumulative Percent
0-20	4	15.9	15.9	15.9
20-40	18	26.5	26.5	42.4
40-60	160	14.9	14.9	57.3
60-80	57	13.5	13.5	70.8
80-100	0	29.2	29.2	100.0
Total	239	100.0	100.0	

There is a large concentration of children in 20-60 percent range. The distribution suggests that a barrier of 40 percent is crucial. Once the children cross that barrier then achieving mastery in language is not difficult. The teachers should therefore identify the factors, which are responsible for this type of scoring. In all probability, it is the children's inability to relate the text with the illustration/figure.

The analysis of responses for different questions suggests that except for six questions, the language comprehension skills were not achieved even by one-third of the total children. Children found it difficult to read a few words like (chatta, topi and guria). There is a need to look into the teaching styles in the MCD schools. It was observed that children could recognize the figure and name but when were told to read its alphabets, they found it difficult to do so. There were a few children who always marked on the same serial number without reading or recognising the particular word. The result of Hindi test has repercussions for other subjects as well. Unless the children are able to read the basic words, they would find it difficult to comprehend the other subjects like Environmental Science, Social Science etc.

5.4 Performance Levels of Different Schools

The performance level of schools varies considerably. In mathematics, it ranges from 42.24 percent for school No. 6 to 71.6 for school 4. In Hindi, the range is much larger. It varies from 33.5 percent to 81.25 percent. The large variations in mean score between schools are also due to their location and management. The schools in the NDMC were

performing better than those of the MCD. This finding is consistent with the earlier study (Aggarwal, 2000).

Table 5.3 Mean Scores by Schools (Grade I)

	Mean Percent Score		**Std. Deviation**	
School	Math	Hindi	Math	Hindi
1	63.67	49.38	22.870	41.345
2	69.38	57.50	20.767	22.858
3	60.17	36.52	23.401	39.727
4	71.57	67.68	22.187	31.608
5	53.04	33.48	20.510	24.329
6	*42.24*	41.00	28.427	29.965
7	60.50	51.56	23.546	32.492
8	54.72	41.40	20.615	30.840
9	51.33	47.08	21.449	25.191
10	72.00	82.93	17.403	15.499
11	59.33	68.33	16.037	24.188
12	72.86	81.25	16.948	22.592
13	44.27	55.33	24.182	27.163
14	62.46	57.50	19.826	31.089
15	50.90	49.48	25.877	29.226
16	63.86	54.31	15.436	23.631
Mean Score	59.64	55.65	22.991	31.384

Association Between Mathematics and Hindi Scores

An effort was made to find out whether the students have consistent performance in both the subjects, i.e, whether those scoring higher in mathematics, also scored higher in Hindi and vice versa. The correlation coefficient between the two was 0.56 (RSQ=0.317). This correlation is high by general standards but not large enough to justify the prediction in score of one subject based on the other. The overall explanatory power of such an

equation would only be 31.7 percent. The remaining variability in individual scores is not explained by such a model.

5.5 Concluding Observations

The foregoing analysis of mean achievement score of Grade I competencies indicates that the performance of children from the slums studying in the government schools was low. In comparative framework, the performance level of the students schools serving slums was lower levels than of those of government schools. It is thus evident that not only it is the school that matters but an equally important factor is the social and economic status of the parents of the children. The correlation between the achievement score for language and mathematics was 0.56. The lack of strong correlation between scoring in mathematics and Hindi shows that rather than anything else it is the teaching styles, which matter the most. The school management does make a difference even for the children with similar conditions. The analysis has reinforced the earlier findings that performance of MCD schools was worse than that of the NDMC schools.

5.6 Analysis Of Achievement Test – Grade IV

As mentioned earlier, language and mathematics tests were conducted for the children of Grade IV. The mathematics test contained 40 items and Hindi reading, comprehension and word knowledge tests contained 35 items each. The achievement test in mathematics evaluated competencies related to understanding of whole numbers, addition, subtraction, multiplication and division of whole numbers. It also included simple problems of day-to-day life relating to units of money, length, mass, capacity, area and time. Questions related to the use of fractions, decimals and percentages, and basic understanding of geometric shapes; solving some problems related to speed and distance were also included in the achievement tests. For Hindi, two types of questionnaire were given to the students. While one questionnaire tried to test the grammar knowledge and questions pertained to the synonymous and anonymous, the other questionnaire had the comprehension passages. Four options were given and after reading the passage the children were supposed to mark on the correct answer. The results of the tests are discussed below.

5.7 Mean Achievement Score in Mathematics

The distribution of score in mathematics was examined and the results of which are presented in Table 5.4.

Table 5.4 Distribution of Students by Category of Scores Mathematics (Grade IV)

Score Range	Frequency	Percent	Cumulative Percent
0-10	83	22.3	22.3
10-20	78	20.9	43.2
20-30	81	21.8	65.0
30-40	61	16.1	81.1
40-50	44	11.8	92.9
50-60	19	5.1	98.0
60-70	6	1.6	99.6
70-80	1	0.4	100
80-90	0	0	
90-100	0	0	
Total	372	100	

Question wise Analysis

The average score in mathematics was only 25 percent. Aggarwal's study of government schools in 2000 had average score of 40.5 per cent. The score of slum children was 14 percent lower. This range of scoring is highly dissatisfactory as compared to the expected achievement level of 80 percent and above for 80 percent of students. Around 65 percent children could not get the minimum pass marks. Not even a single child could attain more than 80 percent marks. Questions related to counting of days, problems related to the subtraction of one number from the other, multiplication, unitary method had a poor response; only around 20 to 22 percent answered correctly. It appears that the concept of division, LCM, factorisation, either had not been dealt with or had not been explained in the class as only around 10 to 15 percent could answer correctly and majority of the students left it blank. Only 13 children out of 372 could answer correctly as to how a fraction could be written in decimals. Even question pertaining to multiplication of decimals, only 13 children could answer it correctly. 58% children did not attempt the problem pertaining to concepts of fractions. This means that most of the pupils were very weak in the basic concepts of mathematics. The contents of the books are arranged in a

sequential and graded manner and if a child fails to comprehend any fundamental concept in a particular Grade, it would not be possible for him/her to understand relatively more advanced and complex concepts in the next Grade. It could lead to cumulative deficiency in children for that particular subject. Curriculum developers, teachers who transact the curriculum should take serious note of the situation and take some remedial measures to improve the achievement level of children in this subject. The data makes it evident that a serious modification is necessary in the curriculum and teaching methodology of mathematics. Either the number of hours for the teaching of the subject should be increased or remedial teaching should be introduced for the weak children.

5.8 Performance in Language

The performance in language was a little better than in mathematics but it was also not satisfactory and encouraging. Around 35 percent children attained less than 30 percent in Hindi grammar and 43 percent children in comprehension. 'No responses' in case of language tests were much less as compared to mathematics. The results of Hindi grammar and comprehension are presented in Table 5.5.

Table 5.5 Distribution of Students by Category of Scores in Comprehension

Score Range	Frequency	Percent	Cumulative Percent
0-10	58	15.6	15.6
10-20	40	10.8	26.4
20-30	59	15.9	42.3
30-40	60	16.1	58.4
40-50	31	8.3	66.7
50-60	37	9.9	76.6
60-70	39	10.5	87.1
70-80	19	5.1	92.2
80-90	17	4.6	96.8
90-100	12	3.2	100.0
Total	372	100.0	

Around 13 percent children scored more than 70 percent in the comprehension test. The results of Hindi language makes it clear that although the migrants are from different linguistic backgrounds yet the children do not find much problem with Hindi as a medium of instruction.

The results for Hindi Grammar are given in Table5.6.

Table 5.6 Distribution of Students by Category of Scores in Hindi Grammar

Score Range	Frequency	Percent	Cumulative Percent
0-10	45	12.1	12.1
10-20	53	14.2	26.3
20-30	34	9.1	35.4
30-40	57	14.7	50.1
40-50	44	12.6	62.7
50-60	72	19.4	82.1
60-70	21	5.6	87.7
70-80	21	5.6	93.3
80-90	11	2.9	96.2
90-100	14	3.8	100
Total	372		

It is seen from the table that around 35 percent children scored below the range of 30 percent. A study conducted by Aggarwal (Delhi, 2000) of Delhi schools had similar kind of findings. Around 12 percent children could score more than 70 percent score in Hindi and only 7 percent were able to attain more than 80 percent. Aggarwal's study had revealed that average score in mathematics was 40.5 percent as compared to 56.5 percent in the language. The field data in the present study reveals that for slum children the average score in mathematics was 25 percent and for language it was 34 percent it is much lower than the non-slum children, and far off from the target of 80 percent of MLL.

The above figures clearly point out that the learning outcomes are much below the expectations. Poor comprehension leads to disinterest in studies and failure in a particular class ultimately leads to dropout from the system. The above scoring pattern also puts a question mark on the universalisation of primary education. It seems meaningless to have

half literate graduates ultimately lapsing to illiteracy. It is the wastage of resources both in terms of human resources, time and money. However, this is not to suggest that we should not strive for the goal of UEE. Appropriate interventions and strategies should be devised to tackle this problem of under-achievement.

- A comparison between the scoring patterns of Grade I and Grade IV presents a distinct picture. The following points emerge from the comparison:
- The average achievement level was much lower in Grade IV as compared to in Grade I. This was true of both for language and mathematics competencies.
- The gap between mean score in mathematics and in language was high in Grade IV while there was not much difference in Grade I scores.
- The achievement level of the slum children was much low as compared to children of other Delhi schools.(Aggarwal, Delhi, 2000)

The following factors could be responsible for the above phenomenon:

- Tests for Grade I were oral and for Grade IV, written. Children were better in expressing themselves to the oral questions but found it difficult to answer in writing.
- The test for Grade IV competencies may be more difficult as compared to Grade I competencies or vice versa. Since both the tests were standardized and validated, these differences should not be significant. The level of teaching deteriorates as children progress through various grades.
  Children do not practice and therefore are not able to cope up with syllabus, resulting into poor comprehension.
- A peculiar phenomenon of the slum children is that they remain absent for a long time due to their visit to their native places. When they come back, they have missed out studies for those days. The loss cannot be compensated, as they have no academic support from their families, leading to low achievement.

The differential in achievement becomes more pronounced as one examines data for different school.

5.9 Performance Level of Different Schools

There were a few children who were not able to read a single word even after completing the penultimate stage of primary level. According to the official data, they would be considered school going children. The question arises that even if after four years of schooling they are not able to read and write, what kind of education is being provided to them, and should they be considered literate? How can we provide the comparable quality of education to these children? How to raise the competency level of these children? After having looked at the achievement results of all the schools and students it would be important to look at the results of individual schools to make a cross comparison. The school-wise analysis would be helpful to identify the institution-related problems and the remedial measures could be taken after the need assessment of the specific school is made.

Table 5.7 Mean Percentage Score of Different Sampled Schools (Grade IV)

		Mean Percent Score			Std. Deviation		
School	No.of Students	Math	Hindi Comp	Hindi Word	Math	Hindi Comp	Hindi Word
1	27	41.30	37.22	39.54	13.18	16.01	29.02
2	28	28.04	38.75	22.23	14.12	18.00	18.35
3	20	14.25	23.00	30.13	14.33	14.23	22.98
4	19	6.97	8.16	38.29	7.29	7.85	17.54
5	22	16.14	34.09	49.09	9.50	17.02	19.37
6	22	24.77	6.36	38.41	11.31	8.26	19.36
7	13	14.62	26.92	30.19	10.30	16.33	19.86
8	25	19.80	33.10	30.30	9.79	22.70	22.63
9	23	13.48	24.78	30.33	9.19	17.51	22.83
10	32	41.17	50.23	52.58	11.38	15.07	15.72
11	20	48.13	52.00	42.63	7.98	17.10	20.27
12	21	27.86	32.02	32.74	14.37	16.39	16.10
13	20	20.88	71.75	21.38	8.59	16.24	15.59
14	28	35.63	39.46	45.63	11.01	15.31	14.85
15	24	12.92	21.35	26.25	8.20	11.47	15.73
16	28	28.39	35.18	35.18	16.10	26.03	21.38

5.10 Cross Comparison of Various Schools

Schools No.2, 10 and 11 had much better results as compared to other schools. School No. 2 was a NDMC run school. The infrastructure and other physical facilities were much better in schools No. 10 and 11. Non-Governmental organization is running remedial coaching centers in these areas and perhaps this was one of the reasons of better performance of children. The teacher-pupil ratio was also better in these schools, which could also be responsible for better performance of the children.

School No. 4 of Kalyanpuri had the worst achievement level. Children of this school came from the slum, with temporary structures, and the migrants were of recent origin. School No. 15 of Sanjay Colony too had poor response in mathematics. Sanjay Colony school is over-crowded with a high teacher-pupil ratio of 1:80. School building consists of 5 rooms with the enrolment of 600 children per shift. One wonders whether in such a situation any teaching is possible. In both the schools 'No response' was also very high which makes it clear that few concepts were not dealt with in the classroom.

In school No. 3 the mean score was the lowest in Hindi comprehension and was better in Hindi word. It appears the children could not understand the passage and answer it correctly. In schools No. 2 and 13, the response was much better in Hindi comprehension as compared to in Hindi word. Possibly they were poor in Hindi Grammar, which implies that the students were not given much practice in Hindi Grammar.

Table 5.8 Mean Percentage Score of 'No Response' in Different Schools

School	No.of Students	Mean Percent Score			Std. Deviation		
		Math	Hindi Comp	Hindi Word	Math	Hindi Comp	Hindi Word
1	27	4.15	2.04	12.19	4.07	3.44	14.39
2	28	12.39	5.61	17.46	11.27	7.79	13.70
3	20	24.55	9.45	14.45	11.10	11.50	15.15
4	19	28.05	21.21	10.32	10.81	9.60	8.72
5	22	26.23	5.77	9.05	8.29	8.25	9.53
6	22	11.68	27.91	8.14	11.46	7.44	12.53
7	13	27.62	9.85	15.54	8.07	9.55	9.15
8	25	15.80	9.44	16.20	9.06	11.59	11.59
9	23	25.04	13.39	12.87	13.54	11.72	11.69

10	32	5.19	0.31	2.34	4.47	0.78	5.08
11	20	3.70	4.00	5.85	4.82	7.63	10.82
12	21	12.10	2.90	8.67	10.79	4.36	9.56
13	20	15.20	0.15	17.90	8.59	0.37	10.11
14	28	8.61	1.11	6.04	6.67	1.75	7.67
15	24	24.67	7.58	16.54	11.03	8.73	11.74
16	28	14.18	9.07	11.07	9.89	11.58	9.06

If we see the `no responses', we find that in schools No. 3,4,5,7,9 and 15 around one-fourth questions were not attempted by children. As has already been stated that it implies that teachers either rushed through the syllabus without giving sufficient practice or did not take the pains to deal with certain topics. The teachers did mention that the children were not able to understand a few topics and they did not have sufficient time to explain them in detail.

In nutshell, the data analysis of the achievement scores clearly indicates that the achievement in mathematics is significantly lower than in the language. This is true for most of the schools. The low achievement, specially `no response', is a matter of serious concern and needs special attention of curriculum developers and transactors. The achievement scores based on competencies of Grade IV were lower than those obtained by learners in Grade I. Besides the complexities of concepts and subjects, the transition from oral to written mode of communication and evaluation may be one of the factors responsible for this pattern of scoring. Moreover, the inability of the teachers to deal with the children of poor socio-economic backgrounds and first generation learners may be another significant factor for low achievement in Grade IV as compared to Grade I. A small percentage of children could attain the mastery level of competencies in mathematics and language. Considering the fact that these children have socio-economic, environmental and educational deprivations, specific strategies and plan of action need to be charted out to remove the inequities.

CHAPTER 6
CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

Pursuit of better performance has become a key factor for individuals and nations. The desire for a higher level of achievement has put tremendous pressure on the students, teachers and the education system itself. Quality of education has become a major area of concern. Mere quantitative expansion is not the target but the achievement of learning skills of comparable standards is the focus of educational system of any country.

The goal of the basic education is to give students the skills to communicate adequately, to solve basic mathematical problems and to apply this knowledge to everyday situations. Children should understand what they read and be able to write. This is indispensable not only for acquiring the basic competency but also to continue learning and be part of the society that operates on the basis of written communication. Once basic knowledge is obtained, higher levels of understanding can be reached by complimenting what students know, with exercises, analogies, differences, inconsistencies, a search for information and willingness to learn from mistakes. As far as the output at the primary level is concerned, it is expected that all children are able to attain the learning achievement levels in all the subjects, corresponding to their grades. In practice it has been observed that the achievement level of students in primary school is poor. Various studies conducted under the DPEP have shown that a large percentage of children have low achievement level and only very few children attain 80 percent levels of achievement in various subjects. A study conducted by Aggarwal in Delhi schools observes that the schools managed by MCD reported the lowest mean scores. In the case of mathematics test based on Grade IV competencies, around 50 percent students could score less than 40 percent. In the case of 13 percent learners, the mean achievement score was less than 20 percent in MCD schools. This is a significant proportion indeed and cannot be overlooked.

Very few studies have been attempted to assess the learning achievement of the children of slum areas. Knowing the inequities in the Indian social, economic and education system, an attempt has been made to assess the achievement level of slum children in the

government primary schools. Information was gathered from four slums of Delhi, about various input indicators like the socio-economic and educational background of the child's family, teacher's professional and academic qualifications etc. The details about the school infrastructure, teacher pupil ratio, availability and utilisation of teaching aids were collected, as these are the significant inputs to determine the learning achievement level.

The present study also looked into the facilities available to the selected schools and gathered information on the available physical infrastructure. It further probed whether, given the schooling infrastructure and facilities, the children from slums could have access to good quality education or not, and whether there were any differentials in terms of quality of access, provision of resources, which contribute to the learning achievement levels.

As already stated above, all the information about the students, teachers and schools was gathered through questionnaires and analysis was done on computers through the Microsoft Excel and SPSS Package. The results are described briefly.

The analysis of the four selected slums speaks loudly of the inadequate attention being given by the administrators to these areas. All the slums are bereft of necessary physical and civic amenities, with no schooling facilities or poor schooling facilities. The plans have been made to provide schooling in the difficult terrains and hilly areas but no provision has been made for the marginalized population of urban areas with regard to the availability of schools to these children in the neighbourhood or within slum areas. The schools, which are provided to them, have poor infrastructure, over-crowded and teachers are not trained to deal with the first generation learners. The socio-economic backwardness is further exacerbated by the poor quality schools available to these children. The data collected on achievement competencies on the field collaborates this hypothesis. The main findings of the data collected from the study area are discussed below.

The mean score for Grade I competencies was 59.64 percent for mathematics and 55.65 percent for Hindi. The mathematics competencies were better as compared to the language competencies although they were much below the target of 80 percent as suggested by the MLL. Children scoring less than 40 percent in any subject are

considered to be under-performers. The data revealed that one-fourth students are under-performers.

Even for language, the situation was no better. From the data it was also evident that there were children from a few schools, whose performance was comparatively lower than the other schools. It implies that the children being from the same socio-economic background, the school level factors are also responsible for the variations in the achievement level.

The mean score for Grade IV in mathematics was only 25 percent and around 65 percent children scored less than 30 percent marks in mathematics. The mean score for the language was also dismal low. It was only 34 percent. The poor achievement in mathematics for a large proportion of children requires further probing and investigation. Only 17 percent children could score more than 40 percent in mathematics, the minimum score required to get through the examination successfully. If the remedial measures are not initiated, the quality of education cannot be assured. Low educational qualifications of the teachers in mathematics could be one possible reason. Low motivation of the teachers to teach the children of poor socio-economic background could be another probable cause. The analysis of response patterns for individual questions has identified the competencies on which the special emphasis should be given in order to bring a conceptual clarity among the school children. There is a need to move from the traditional modes of teaching to modern methods of teaching.

6.2 Recommendations

Generally, the municipal corporations are responsible for the provision of primary education facilities within the municipal boundaries. These provisions are made from the municipal budget, which is under severe constraints for most of the municipalities. Moreover, each municipality follows a different set of norms for opening and maintenance of primary schools. Many suggestions have been made to improve the school effectiveness in municipal areas. Some of these are:

- Establishment of norms for opening and upgrading of schools, provision of teachers and other facilities for the schools located within the municipal limits;

- Easy access to good quality classrooms and other infrastructure with enough provision for ancillary activities;
- Motivation of teachers for understanding the problems of slum children. Special training of teachers is required to ensure that the problems of urban children are properly tackled. The urban children face special problems in the form of child abuse, danger of infections due to unhygienic slum conditions.
- Use of technology to make teaching-learning more interesting and interactive. It is much easier to use educational technology in urban settings as compared to small rural hinterlands.
- Developing a network of government and private schools to share common resources. The private schools should be compensated for the services rendered to the government schools;
- The NGOs and self-help groups operating in the slums can be mobilised to organise remedial teaching at some central locations in the slums. This will build confidence among the children who are not able to keep pace with others.
- Cooperation of private school teachers and volunteers should be sought for helping these children in increasing their basic competencies.
- Given the unprecedented explosion of knowledge and information, the base of teacher's knowledge and information has to be continuously updated to make his/her contribution relevant to education process in general and teaching in particular. The teaching skills hence could be enhanced and improved by giving pre and in service training at this all round pedagogical development. The structure and system of teacher training should simultaneously be updated to meet the training requirements of the teacher.
- The present scenario demands that teacher should make the children understand the classroom is a safe place to experiment. Teachers should encourage children to take risks, to have courage to explore, to keep time for thinking and reflection

and to generate in them the capacity to concentrate. If the children are provided with a greater friendly space to learning through joyous activities, attractive texts and materials and free interaction with the teacher and their peer group, the learning competency would greatly improve. Teachers should be trained to manage the classroom without the use of rods.

- There should be clarity of powers and responsibilities so that the accountability can be ascertained. For improving the learning achievement, schools should be given sufficient autonomy in planning their activities. Head of the school should have necessary minimum financial and administrative powers to improve his institution. To keep a balance and counter check, the supervision mechanism should be strong and speedy.
- The slum children have a peculiar problem as they visit the hometown generally during the harvesting season with their parents and overstay there during the session. Remedial teaching should be arranged as most of them have the similar time and period of their absence. The school days otherwise should be adjusted accordingly.
- To improve the achievement level in math's, teaching aids should be used extensively. Teacher should ensure that five to ten sums are done regularly by each student. After finishing each chapter, a class test should be given. For the weak children, remedial coaching should be arranged.

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