

## Quality Concerns in Primary Education in India Where is the Problem?

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*The destiny of India is now being shaped in her classrooms.*

*Education Commission, 1964-66.*

This is how the Education Commission described the role of education in social and economic transformation of India. While the development planners rightly recognized that expansion of educational facilities has to be accompanied with significant improvements in quality and relevance of education at all levels, the outcome is quite disappointing<sup>1</sup>. At the international level, the development experience in social sectors shows that a literate society has enormous gains over an illiterate society and no illiterate society has ever been able to modernize and progress. We are now transiting to a knowledge society where the quality and relevance of education would play a crucial role in economic development. Poor quality of teaching learning and systemic level inefficiencies affect the learners as well the society in many ways. The long-term implications include lower productivity levels of the prospective workforce, resistance to modernization and perpetuation of inefficient production systems where cost benefit ratio adversely affect the economic sustainability of production processes.

### Concerns for quality of education

As far as the provision of access and coverage is concerned, India today boasts of its educational system being the second largest in the world. It consists of nearly 610 thousand primary and 185 thousand upper primary schools, about a quarter million non-formal education centers, about 1.87 million teachers and 110 million students study in primary classes in the recognized schools (1997-98). As per 1991 Census estimates there were about 115.6 million children in primary school going age group in the country<sup>2</sup>. The latest educational statistics indicate a GER of 89.7 percent for primary classes (81.2 percent being for girls and 97.7 percent for boys)<sup>3</sup>. The number of students in primary classes in India is larger than the total population of the neighboring Bangladesh. No doubt, the system can claim it to be one of the largest, but it can not make similar claims for efficiency, quality and achievement of learners?

Various five years plans incorporated programs and strategies based on periodic assessment of the progress of education by the Ministry of Education, Commissions and

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<sup>1</sup> Government of India. (1951). *First Five Year Plan*, Government of India, New Delhi.

<sup>2</sup> The data on the number of school going age group children is computed from *Social and Cultural Tables*, Census of India, 1991.

<sup>3</sup> For details see *Selected Educational Statistics, 1997-98*, MHRD, New Delhi.

Committees appointed by the central and state governments. The National Policy on Education (NPE), 1986 and the revised NPE, 1992, reiterated the urgency to address the quality concerns in schools education on priority basis. Quality can not improve by itself. It requires reforms in teacher training; improvements in the facilities and infrastructure in schools; teachers' motivation; and a change in the style of teaching to make it attractive to the students. However, in actual practice, there has always been a trade-off between quality and quantity, in favor of the latter. This not only affected the internal efficiency of the educational system but also resulted in a situation where only a few graduates of the school and higher education system could attain the expected skills and competencies. The labor market policies and predominance of public sector employment opportunities did not put enough pressure on the educational systems to change as the degree was more important than the acquired knowledge and skills. The gap between the planned and the realized goals of education continues to be so large that even the basis of educational planning and underlying assumptions can be easily challenged. The basic educational planning models have gone off the trajectory both at the central as well in the states. Bringing it back on the tracks remains a serious challenge for the development planners.

The inter-state and intra-state variations in school facilities, quality of teachers and learning outcome are large and so are social and economic conditions of the areas where the primary schools operate. While indicators to measure the access, retention and internal efficiency of the educational system in terms of participation rate, accessibility, repetition rates, promotion rates, dropout rates and input-output ratio have been developed, but little information is available about the learners' achievement of cognitive and non-cognitive competencies. Under the no detention policy, followed by most of the states, a child is not even tested on the learning outcomes for many years after entering the school. The no detention policy prohibits the use of examinations in first few years of schooling. The proposed system of continuous and comprehensive evaluation is yet to be implemented on sustainable basis. Reforms in the quality of education have not received serious attention of many states.

### **Defining quality of education**

Assessment may be defined as 'any method used to understand the current knowledge that a student possesses. The idea of current knowledge implies that what a student knows is always changing and that we can make judgment about student achievement through comparison over a period of time. Good assessment techniques provide accurate estimates of student performance and enables teachers and decision-makers to make appropriate decisions. The current debate about the determinants of student achievement, specifically the contributing effect of teacher variables, has its origin primarily in the findings of the Coleman Report (1966).

In developing countries, the examination results are often used as a proxy for the quality of education. However, such a method is fraught with great problems, as the examination system is limited in scope and coverage as far as learning is concerned. The research has established that acquiring both cognitive and non-cognitive competencies are necessary

for a child's overall development. However, most of the research in learning achievement has focused on the assessment of cognitive skills acquired by the students. An equally reliable measure of quality of education is whether pupils are learning effectively, improving their knowledge, skills and abilities; widening their experience and growing socially and morally or not. Ability to work with others, readiness to accept responsibility and to work for public good are highly praised characteristics among school leavers. But assessment tools do not test for such skills.

While there is no consensus among educationists regarding the definition of the quality in education but there are several ways of measuring quality in education. In the context of school effectiveness, the concept of quality is linked to the efficiency of teaching-learning processes. Quality is a relative concept and not something that is absolute. One useful approach could be to select a range of educational indicators that are explicit and measurable representing various facets of quality

The quality of education and its determinants remain a topic of interest since the beginning of formal education. It is possible to develop indicators to measure learning along important dimensions, closely related to the curriculum, both in standardized assessment instruments and in alternative forms of assessment. Non standardized assessment refers to the traditional form of assessment by teachers on regular basis through classroom interaction, questions, assignment of homework and other such techniques. The results of such assessment may be accurate or faulty, depending upon the teachers' skill as a judge of various indicators and their applicability in a given situation. Standardized tests have proved useful in comparing, generalizing and indicating levels of attainment based on pre-defined standards. It is assumed that levels of learners' achievement are assessed at best through standardized achievement tests.

Since the beginning of sixties, the measurement of students' academic performance on regular basis has been an ongoing effort in the advanced countries. Based on these results policy level interventions are made so that the deficiencies in learners achievement can be overcome. In India, the large scale achievement studies were conducted only in the recent years for primary education. The methods and tools for assessing learning outcome at other levels of education are yet to be put in place. The country is yet to evolve a policy for periodic collection and analysis of learners achievement data and using it for monitoring the quality of education at various levels. Considerable research is needed to improve the achievement testing methodology, achievement tests and tools of analysis. The analysis and feedback from achievement studies must be used for curriculum reforms and for restructuring of teacher training contents and methodology of training.

In the last few years, international organizations like the World Bank, UNICEF, UNESCO and UNDP have produced valuable studies on educational assessment and measurement. The Fourth Survey on Research in Education in India (Buch, 1991) identified many studies, essentially at the M.Phil. and Ph.D. level, addressed to the achievement of primary school children. These researches are more of conceptual nature and their use in policy planning was practically nil.

Recently, Shukla (1994) conducted another study on about 66,000 students to find out the level of attainment of primary school children in 25 states/UTs. Among other things, the study showed different patterns of educational attainment in different states. Pupil's achievement was related to the education of the father and the facility for learning and educational environment at home. Considerable research evidence is available on the factors affecting the learning outcomes. While a study by Heyneman and Loxley (1982) showed that 90 percent of variance in students science achievement is explained by school and teacher variables and only a small proportion by home related factors, the study by Kingdon (1998) shows that home background and school influence are both important to students achievement in India.

Jangira (1994), while synthesizing 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. In a study conducted in Karnataka, covering 2,598 class IV learners and 442 teachers, it was observed that the learning achievements are not significantly different between rural and urban schools. However, a significant difference was observed among the schools belonging to different management agencies (Aggarwal, 1995a). Similar studies were also conducted in many states as a part of the DPEP baseline learners' studies. The findings of the study on Kerala covering 3,089 class IV learners and 502 teachers suggests that the type of management of the school is not an influencing factor in learning achievement. The study found that the level of school infrastructure and variations in the availability of teaching-learning materials is not clearly related to learning achievement (Varghese, 1994).

### **Learners Achievement and Quality of Education**

The interest among developing and developed countries to compare information and experience about achievement in terms of both the standards which are prescribed and the standards that are actually achieved by the learners is indicated by the growing number of countries participating in the cross-national comparative studies on learning achievement. At the international level, the International Evaluation Agency (IEA) has developed achievement tests which are administered across the participating countries and used for establishment and comparison of learning outcome of children of specified age groups in developed and developing countries. The OECD has a long tradition of assessing achievement level in various countries and providing comparative statistics.

In addition to the international studies, many countries have also adopted a unique approach for assessing learning outcomes at various levels on regular basis. In France, for example, the focus of external assessment is to provide information on the attainment of individual pupils so that teachers can respond effectively to specific weaknesses or strengths as revealed through assessment studies. In United States, assessment studies have been conducted for a long time and have been used for national assessment and international comparison of learning outcome of American pupils with other developed countries. In England and Wales, all students are assessed at the end of ages 7, 11 and 14.

The information on achievement of pupils is made available to the schools and public. It is considered essential that the public has the right to know about the performance of schools and be able to make comparative judgements between schools. In Ontario, Canada, all grade 3 pupils (8-9 year olds) are assessed on various literacy and numeracy tasks in a comprehensive testing programme. The programme is designed to set benchmarks for achievement at this level. In Australia, some states such as Victoria and New South Wales, test all students of a similar age. The information on performance of pupils is made available to the pupils and schools and not to the public. New South Wales conducted state-wide tests in literacy and numeracy at years 3 and 5 for many years. The common element of all these tests has been to help teachers improve their programmes. From Target to Action, published by the Department of education (UK) provides examples how schools have used the assessment results to monitor the effectiveness of their teaching learning strategies and to set targets for improving their students achievement.

### **Review of empirical research on achievement**

The review of empirical research on learners' assessment shows that there are two distinct phases. The period up to 1990 is characterised as the first phase and the researches and empirical studies undertaken after 1990 fall into the other category. A main characteristic of the empirical studies in the first phase was that these were mainly academic in nature and the administrators did not use their findings for policy reforms. The present paper examines the studies undertaken after 1990.

There was a significant departure during nineties as far as assessment and measurement of learners' achievement is concerned. Earlier studies were confined to small samples and each followed a different sampling design and achievement tests. Therefore the findings were not strictly comparable. Moreover, most of the studies were cross-sectional in nature and at no point of time temporal comparisons were made. Temporal analysis is necessary to understand the dynamics of policy formulation and educational reforms in teaching learning processes. In early nineties, a major initiative to achieve universal primary education came in the form of District Primary Education Programme (DPEP) which has now emerged as a major vehicle for bringing about a qualitative change in primary education. The DPEP model has also been replicated on a large scale through many innovative projects.

### **Learning achievement levels in Delhi**

Recently, a study on learning achievement for primary schools in Delhi was conducted by the author. The study covered all types of primary schools/sections in Delhi and was based on a sample of 169 schools. Besides other aspects, the achievement levels in language and mathematics were assessed through competency based tests developed by

the NCERT<sup>4</sup>. The overall mean score based on Class I competencies was 80.2 percent for Language and 78.2 percent for Mathematics. The mean score for English and Hindi medium schools was statistically different in mathematics. The mean score for the SC children was 810 percent points lower than those of the children belonging to general category. The differences in mean achievement scores due to gender were reflected both in language and mathematics. However, the girls scored much lower in mathematics as compared to the boys.

The achievement scores based on class IV competencies were very low as compared to class I mean achievement scores. The gap was large in mathematics as compared to language. The mean score in mathematics for Hindi medium schools was 40.46 percent as compared to 56.5 percent for the mean score in language. The gap between mean score in mathematics and language is considerable and statistically significant. In view of the low achievement scores, the underachievers are large in number. About 50 percent of learners in Hindi medium schools failed to obtain more than 40 percent score in mathematics. The corresponding share of learners in language was 23 percent.

The differences in achievement become more pronounced as one examines disaggregated scores for gender, caste, management and related attributes. Children with pre-primary education in Hindi medium schools achieved 8-10 percentage points more than those who did not have pre-primary education. This corroborates the impression that SC children are deficient in learning outcomes. Significant differences (15-18 percentage points) in the mean achievement score were also observed between different types of management. The schools managed by MCD reported the lowest mean scores. More than 20 percent children were reportedly scored less than 20 percent in MCD schools. The poor performance of MCD schools is thus a cause of concern.

The large differences in the achievement scores between class I and Class IV points to a gap in the quality of teaching learning and classroom interaction processes. While Class I achievement score is based on oral test, the class IV scores were based on the written test. Even within the class IV tests, the performance was poorest in mathematics as compared to language. It appears that children could understand and express orally but have difficulties in written communication. This has significant bearing on the teaching of language and expression in the form of written text.

The achievement levels of children studying in English medium schools were analyzed separately. The mean score was 47.8 percent in mathematics as compared to 49.7 percent for language. About 38 percent of children failed to score more than 40 percent in mathematics and 24 percent failed to cross this threshold in language. Therefore, the general impression that all is well with English medium schools is not correct. While it is true that their performance is far better than the government schools, but the extent of underachievement is also very high. Within the language, the underachievement is more

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<sup>4</sup> For details see, Aggarwal, Yash (2000). *Primary Education in Delhi: How Much do the Children learn?*, NIEPA, New Delhi.

serious in reading comprehension. This is a clear reflection on the poor quality of classroom teaching learning processes. Based on the detailed analysis presented above, the following issues were identified as far as provision of primary education in Delhi is concerned:

- Inadequate/absence of access to a comparable quality of education.
- Overcrowding in the existing government schools.
- Mismatches between demand and supply of schooling facilities.
- Dilapidated condition of class rooms, particularly those running in rented buildings. Repairs of rented buildings can not be undertaken under Rent Control Act.
- Lack of sanitation and water facilities in old school buildings.
- Excessive reliance on centrally sponsored schemes has also created its own problems. The states seldom initiate programs of educational development at their own initiatives and wait for central government initiatives.
- The educational planning for UEE in the urban context requires special emphasis. The traditional methods of removing supply side constraints would not succeed in achieving UEE objectives.

#### ***Assessment of Learners Achievement in DPEP Districts***

The large-scale studies for the DPEP project were conducted in 46 districts covering eight states in 1993/94. Some unique features of achievement studies conducted under DPEP were:

- A common national framework for the design and data collection of baseline and mid-term studies in all districts.
- Use of nationally developed standardised achievement tests in all the states.
- The period of data collection was same for baseline and mid-term assessment studies for all the 42 districts belonging to phase I of the project.
- Provided inputs for the curriculum revision, preparation of new textbooks, teachers' guides and supplementary teaching learning materials.
- Provided inputs for the restructuring of teacher training curriculum as well as the training methodologies.
- The studies brought about an awareness about research based interventions.

Achievement tests were conducted for assessing the levels of learner's achievement of students at the end of Class I and the penultimate class of primary education cycle in mathematics and language based on Class I and Class III/IV curriculum. Class II tests were oral in nature. The tests developed by the NCERT for the Primary Education Curriculum Renewal Project were used for DPEP achievement studies. Class IV/V standardised tests were developed by the TSG/NCERT. A total of 24,504 students of class IV/V, 23,056 students of class II and 5,114 teachers were covered under the

baseline studies for the phase I districts. The period of reference was 1993-94 academic session. The study suffered from one limitation that it was confined to government schools only. Thus it was not possible to compare the differences in achievement level between children from the private and public schools. Such an analysis is necessary in the present context when the demand for private schooling is increasing exponentially even in smaller rural habitations.

The results of the learning assessment studies conducted under DPEP were quite revealing. Letter and word reading are basic skills which require 100 percent mastery for developing further skills. But surprisingly, none of the districts even achieved 80 percent in either of the tests. Like students teachers also found it difficult to handle mathematics questions. A mathematics test conducted on 42 teachers showed that most of them could not even correctly do a question on LCM while 64 percent could not give a correct title to a paragraph in the language comprehension test (NCERT, 1992). The studies also identified that supervision was the weakest link in educational administration. Two third of teachers reported that they did not receive any type of assistance or help from their head teachers and the same proportion mentioned that there was no supervision by the Block education Officers. In Karnataka study, it was found that a significantly large number of teachers were themselves first generation learners. Many teachers covered under the survey were not even properly qualified and did not attend any in-service programme during the five years preceding the survey (Aggarwal, 1995a).

#### *Trends in Learning Achievement*

The second round of studies was conducted as a part of the mid-term assessment (MAS) for the 42 phase-I districts. While the MAS used tests different from the one used at the time of BAS, an effort was made to compare the results of the 1993/94 and 1997/98 studies. The MAS data covered 66,831 students, 6,221 teachers and 2068 schools spread over 42 districts belonging to phase I of the DPEP. The important findings of MAS were:

- A comparison of learners' mean score in language (class I competencies) for the BAS and the readministered test under MAS had revealed a mixed picture. In 28 of 42 districts the gains were positive and ranged between 0-36 percent. However, for the remaining 14 districts, the mean score in language was lower by 0-18 percent. In the case of mathematics, 33 out of 42 districts showed positive gains and the remaining nine districts showed a significant decline in mean scores.
- A similar analysis for class III competencies showed that 13 districts out of a total of 15 districts showed positive gains in language test. The decline in the remaining two districts was not significant. The mathematics results indicated that mean score for 11 out of 15 districts showed significant gains.
- The analysis of data for Class IV competencies indicated that the mean scores in language for 18 out of 27 districts showed gains, of them 15 showed statistically significant gains. The decline was more pronounced in some districts of Madhya

Pradesh. Similar trends were observed in the case of mean scores for mathematics.

- The analysis also confirms the general trend that the performance of students in Class I both in language and mathematics was better than their counterparts in class III and IV. This is a matter which has to be seriously examined. This confirms the decline in educational standards as the students move from lower to the higher classes. It also signifies the issues related with the transition from oral to written mode of evaluation. Are the students well prepared for this transition?
- The DPEP goal of reducing the difference in mean achievement score between boys and girls have been accomplished in 40 out of 42 districts in language and 31 out of 42 districts in mathematics. However, similar objectives for the SC/ST population are yet to be achieved.
- The study confirms a moderate effect of teacher training on mean achievement scores. Students' achievement stands positively related to the availability of competency based teaching learning materials.

#### *Inter-district Variations in Mean Achievement Scores: Class I*

Perhaps a striking finding of the achievement studies was the large differences in average achievement score between the best performing and the worst performing districts. The mean percentage score in language varied from 44.5 percent for Rewa district in Madhya Pradesh to 85.5 percent for Belgaum district in Karnataka. The minimum and maximum achievement score in mathematics also followed a similar pattern i.e. it varied between 36.5 percent for Guna district to 87.5 percent for the Belgaum district. Thus the mean score for the best district was roughly twice that of the districts having the minimum score.

- There was a positive association between the mean percentage score in language and mathematics. The correlation between the two being 0.73. Thus the districts with high achievement level in mathematics also depict high achievement level in language. Therefore, sustained efforts will be required in improving competencies in both the subjects in low performing districts.
- Many districts belonging to Madhya Pradesh fall in the category of low achievement districts both in language as well as in mathematics. It is important to note that many of these districts are characterized by high degree of deprivation. The share of SC and ST population in some of these districts is very large. For example, the districts with the second lowest mean score in language had more than 60 percent of its population classified as SC and ST.

#### *Inter-district Variations in Mean Achievement Scores: Class III/IV*

The dispersion with regards to achievement scores was similar to that of Grade I competencies. The achievement score in language varies from 30.9 percent for Satna to 67.6 for Raisen district. Similarly, the mathematics mean score varies from 20.6 for

Sehore to 61.3 percent for Dhubri districts. For 32 out of a total of 42 districts, the average score in mathematics was lower than that of language. How does one explain such a lower performance in mathematics as compared to language?

The mean score in language and mathematics are consistently lower in Class III/IV than the corresponding mean score in Class I. Why should the scores decline as pupils move to higher classes? This is particularly intriguing, as the phenomenon is true for both the subjects. One possible reason could be that class II tests were oral and classes III/IV were written. To what extent the difference could be attributed to the transition from oral to written form of examination?

There were many districts, which performed poorly as far as mathematics was concerned (table 1). One in every three districts has an average score of less than 30 percent in mathematics.

Table 1: Classification of districts by levels of achievement, MAS-1997

Range	Language		Mathematics	
	Class I	Class III/IV	Class I	Class III/IV
Below 30	0	0	0	13
30-40	0	17	2	18
40-50	2	17	2	5
50-60	15	8	14	4
60-70	15	0	10	2
70-80	8	0	11	0
>80	2	0	3	0
Total	42	42	42	42

Source: NCERT, 1998.

### *Achievement Scores: Gender Dimension*

It is generally believed that girls are more deprived than the boys. This is well reflected in the historically obtained patterns of educational attainment and levels of literacy. Data has also suggested that the DPEP districts have registered higher growth rate of enrolment for girls as compared to boys. The analysis of enrolment and retention data for the DPEP districts has shown that most of the districts, the Index of Gender Equity was more than 95, thus showing the near absence of gender related inequities (Aggarwal, 1998a). Is this also true of learning achievement?

The analysis shows that differences in achievement of boys and girls were not very striking. The distribution of districts into various classes for mean achievement scores for class III/IV between boys and girls is shown in Table 2. While the overall levels of achievement continue to be low both for the boys and girls, the differences in achievement patterns were not very significant excepting for a few districts. The average score was lower for mathematics than for language.

Table 2: Classification of districts by level of achievement, MAS 1997-Class III/IV

Range	Language	Mathematics
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	Boys	Girls	Urban	Rural	Boys	Girls	Urban	Rural
Below 30	0	2	1	0	15	16	14	16
30-40	16	16	14	18	14	14	14	16
40-50	19	16	16	16	7	6	9	5
50-60	7	8	10	6	4	5	3	3
60-70	0	0	1	2	2	1	2	2
70-80	0	0	0	0	0	0	0	0
>80	0	0	0	0	0	0	0	0
Total	42	42	42	42	42	42	42	42

The rural urban differences in achievement scores were more striking as compared to gender disparities. In the case of language, the rural students seem to be performing better than the boys. It is the other way round for mathematics. This phenomenon needs to be examined in detail. The performance of the rural children in mathematics was very low as 32 out of the 42 districts had mean score of less than 40 percent-an exceptionally low performance of the pupils with rural background. Thus, the position with respect to teaching of mathematics is very unsatisfactory in class III/IV. These findings have serious implications for the planning and management of DPEP for the next few years. Will DPEP be able to prepare a framework for the universalisation of primary education in a manner that all children not only attain the objectives of DPEP but also able to cross the threshold by which 80 percent of the competencies are attained by 80 percent of the students.

#### *Extent of Under Achievement in Various Classes*

A detailed analysis of the underachievement patterns is attempted in this section. The cut-off for the underachievers can be defined in many ways. For the purpose of this study, it is considered that any child who scores less than 40 percent should be considered as underachiever and the children who attain more than 80 percent should be considered as high achievers. The cumulative distribution of all these students based on their mean score in language and mathematics is presented in Figure 1 and 2

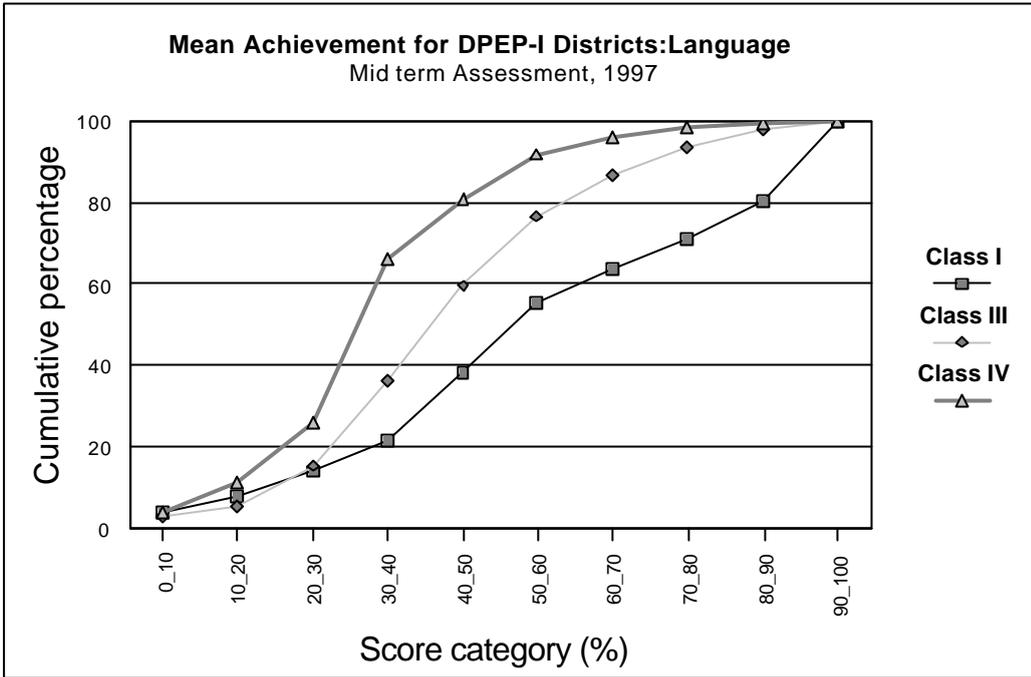


Figure 1

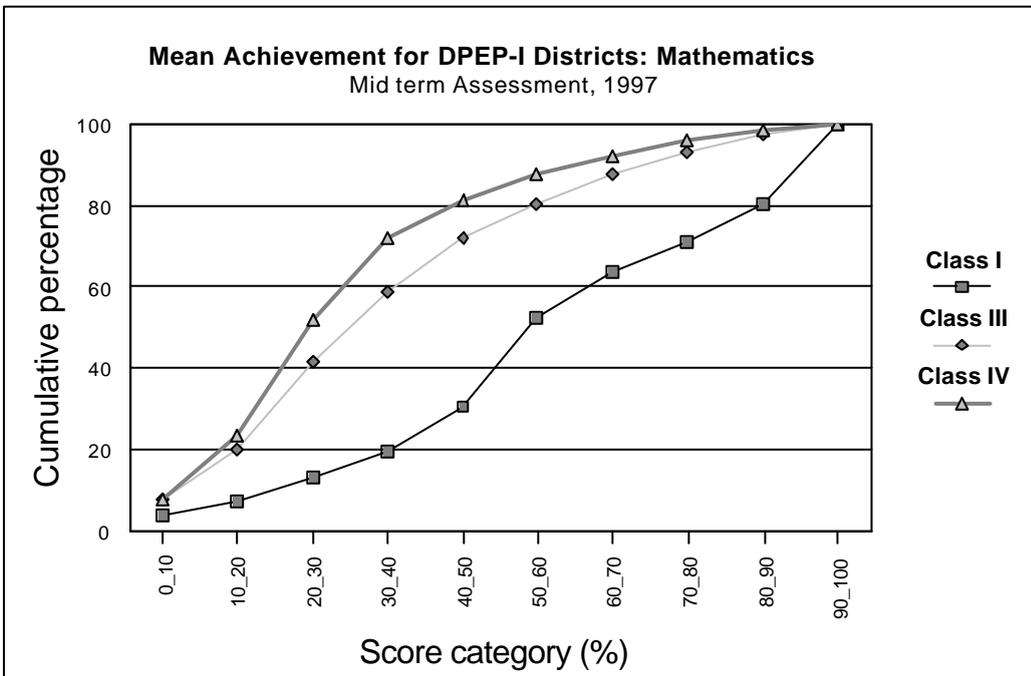


Figure 2

The mean achievement score is highest for class I, followed by class III and lowest for class IV learners. Thus there is a clear evidence that as children progress through various

grades, their performance deteriorates. Although this findings is not based on the same set of students who are observed over a period of time, yet the sample is large enough and cross-section data reflects the likely trends which would have been obtained over a period of time.

The extent of underachievement (less than 40 percent) in language varies from 21.8 percent in class I to 36.2 percent in class III and 66.3 percent in class IV. Thus, nearly two third children of class V should not have been there as their competency levels were too low in language. By pushing them to higher grades, the underachievement is rewarded.

The extent of underachievement in mathematics is much higher than that of language. It is estimated that 19.8 percent of class I students fall within the category of underachievers as compared to 59 percent for class III and 72.2 percent for class IV. Translated in absolute numbers, this implies that 14,371 class IV learners out of a total of 19,894 got 40 percent or fewer score in mathematics. More than half (52.1 percent) pupils could not score more than 30 percent. How does one reconcile such poor levels of performance where nearly three fourth children fail to acquire even 40 percent score, what to talk of 80 percent score for all the children.

Let us consider the high achievers, especially in class III/IV. In language, 1.9 and 0.3 percent children were able to achieve mastery level (more than 80 percent). In mathematics, 2.3 and 1 percent of children were able to achieve mastery level competencies in classes III and IV. How to attain the intended target of achievement of 80 percent for 80 percent of students?

The NCERT studies have not examined the correlates of learning. While the data was collected on these aspects, the analysis and findings have not been released. The NCERT study does mention that the schools having competency based instructional materials fared well as compared to others. Similarly, it has been pointed out that parents' educational qualification is positively related to their achievement score.

Despite significant efforts, all is not well with the educational system. It is not only that many children do not have access to proper schooling facilities, but the internal efficiency of the educational system is also very low. This is reflected in high proportion of children leaving the school system without completing the primary cycle of education and low achievement among those who continue to stay in the system.

### **Conclusions and recommendations**

The concern for quality of education has been voiced from time to time in India. The National Policy on Education (NPE), 1986 and the revised NPE, 1992, again highlighted the urgency to address the quality concerns on priority basis. Quality can not improve by itself. It requires multi-pronged and strategic reforms in teacher training; improvements in the facilities and infrastructure in schools; teachers' motivation; and a change in the style of teaching to make it attractive to the students. The policy also recommended that a system of continuous and comprehensive evaluation would be established. Besides the

state level schemes to improve access and quality of education, a number of Centrally Sponsored Schemes and externally funded projects, undertaken in the recent years, are experimenting with various models of bringing about increased coverage, retention and improvement in quality.

It is demonstrated by many researches that a solid foundation in mathematics and language is necessary for primary school children to navigate the information in technological age. Students with strong grasp in mathematics have an advantage in academics as well as in the job markets.

In the recent years, a number of new approaches have been developed to assess the achievement levels. In India, some of these methods have yet to be tried to establish their applicability. In the simplest of the terms, it may be mentioned that assessment should be viewed as a tool for improving educational standards, provide information to educators to determine which practice has resulted in desired outcomes and to what extent.

The study has raised many issues that have serious implication for quality improvement in primary education. Some of these issues are discussed below.

- a) There is a clear evidence to suggest that achievement levels tend to decline as the children move along the educational hierarchy. This is true of both the English and mathematics test. This shows that schools are not able to cope with the teaching learning load as the pupils' progress through various grades.
- b) The temporal comparison of learners' performance has shown some gains in the first few years of DPEP. While this a welcome outcome and confirms the broader direction of reforms, it also raised many questions about the negative/decline in achievement level in certain other districts. While the contextuality of the district is an important parameter of planning, the implementation processes should also be reviewed to isolate the factors, which have facilitated/impeded the trends in learning outcome.
- c) The students from privately managed schools perform better as compared to the students from government and aided schools, although the evidence is limited. It is also clear that despite better performance, even the private schools are far away from achieving the goals set up by the MLLs.
- d) There are no mechanisms for assessing the achievement levels for children studying through non-formal and alternative schools. Since these systems are more of informal and flexible, it is important to establish their credentials through effective monitoring and evaluation.
- e) The overall scores of class V learners based on class IV competencies are low for both mathematics and language. The low achievement in mathematics is indeed a matter of concern. The long term effect of low achievement in mathematics is revealed by the secondary and senior secondary examination results where most of the children fail in mathematics and the overall result stays around 50 percent. It is

therefore important to evaluate the mathematics curriculum and related instructional materials.

- f) The teachers are at the centre stage of the educational system. There is no system to identify teacher training needs. The teacher training packages do consult the teachers but once finalised, their content is same for all the teachers. Is it possible to identify the level of competencies attained by teachers in language and mathematics so that a proper module on their capacity building is developed.
- g) Upgrade curriculum periodically, integrate technology and high quality instructional materials and to help students in learning the applications of mathematics in real life. Teachers should be encouraged to develop and use locally relevant instructional materials.
- h) Underachievement, even if it defined at 40 percent level, is very high in classes III and IV. The extent of underachievement among class V learners was 66 percent in language and 72 percent in mathematics. Those achieving mastery level competencies constituted a small fraction of the total students. The prescribed norms are that 80 percent children should be able to learn 80 percent competencies. Thus, there are miles to go before the target of MLLs can be achieved.
- i) The class II tests were oral in nature and class III/IV were written. The sudden drop in the level of mean achievement scores also points to another phenomenon i.e. the transition from oral to written mode of examination. Are the students well prepared for this transition. Perhaps at no point of time, the students are taught about this transition. This aspects need to be examined by the pedagogists.
- j) A national testing agency or a research cell in the national/state institutions should be established to undertake continuous and comprehensive analysis of learners' achievement at primary and upper primary stage. The cell should assists the state governments to meet the challenging mathematics standards at primary stage, work closely with teachers unions and other NGOs for upgrading the skills of teachers on continuous basis. Educational administrators needs assessment information that will help them remove barriers to learning by telling schools to decide on what works well and what does not. Enable teachers to identify students learning needs early, before the problem becomes too big. The school administrators should also ensure that that the dialogue between the schools and children is better informed; giving parents a better picture of the progress of their children and the effectiveness of the schools.
- k) In the Indian context, there is no mechanism for the training of head teachers of primary and upper primary schools in school leadership. In most countries, such training is a part of the capacity building exercise. Review of the professional development strategies for the teachers and head teachers stressing both subject matter expertise and pedagogical mastery is thus necessary.

- 1) As more and more data becomes on students achievement, it needs to be organised systematically so that the researchers and can have access to these database for testing of various types of alternative hypotheses.

In conclusion, it is pertinent to note that the assessment studies undertaken in the recent years have brought to focus many issues which require immediate attention. These efforts will go a long way in developing local specific strategies and help the system to develop an integrated model of UEE, where the focus is not only on removing supply side constrains by providing more teachers, facilities, instructional materials etc., but also in identifying the critical inputs that optimise the learning outcomes in a given situation.

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