

Research Paper

Engineering

Can India Improve Access and Quality in K-12 Education?

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ABSTRACT

Reports around a recent survey of learning achievement of class tenth students by NCERT indicates that majority of the states and union territories are per¬forming below the overall average score in all sub¬jects, with private schools doing marginally better than the government and government-aided schools. There are several chronic administrative and

in¬frastructure-related issues that riddle our school education systems, in some case despite the best of efforts and intentions of administrators and teachers to fix them. In private schools, the basic infrastruc¬ture and teacher attendance may not be a pressing challenge, however in government schools lack of infrastructure, accountability and teacher absen¬teeism is rampant. The student-teacher ratios are far from optimal in most places; teachers' subject matter expertise often inadequate or outdated due to lack of re¬sources, timely training and heavy teaching loads. While there are thousands of passionate and committed teachers out there, there are many more who are not in this profession by choice. Teacher remuneration is low compared with the other highly sought-after professions making it unattractive for the bright minds of the society to take up teaching voluntarily. So how do we fix this?

KEYWORDS:

Introduction

The majority of illiterates will be children who have not completed their schooling. The quality of the education provided, even more than the fact of having access to education, is a decisive factor in the introduction of programmes to provide education for all. The key concern about education, in any formal educational system, of all time, has been its quality. Every stake holder, direct or indirect, of education is concerned about its qualityThere is no universally accepted definition for 'quality of education'. In education, perception of quality is around students (Mukhopadhyay, 2001). The performance of the students like examination results, learning achievements, ability to apply learned knowledge in practical life-- exhibit the quality of an education. For some, "Quality of education" means value addition in education (Feigenbaum 1951); excellence in education (Peters and Waterman 1982); for others, fitness of education outcomes and experience for use (Juran and Gryna 1988). For a society, "excellence" and "value" are most appropriate indicators for quality education. A generally accepted definition of quality education does not exist and different end users adopt different criteria for determining the quality of education. The universal declaration of human rights (1948) considered primary education as the basic human right of all people. Accordingly, all nations prioritized universal access to education. The developed and developing countries have attained universal or near universal access to primary education. Now the focus is on the quality of student learning. The quality concern is not uniform across the nations. The developing and poor nations are still striving for expansion of educational access. It has been established that access to education and its quality are not sequential elements. At the sub-regional meeting of south asian ministers in Katmandu in April 2001, quality education was unanimously identified as a priority area. All participants were in agreement that there was an urgency to develop the quality of education to meet the intermediate target and education for all by 2015. Because how well pupil are taught and how much they learn can have a crucial impact on how long they stay in school and how regularly they attend. Further whether parents send their children to school at all is likely to depend on the judgment they make about the quality of teaching and learning. Based on this perception parents decide whether attending school is worth the time and cost for their children and for themselves. The World Bank (1997) suggested that 'the best way to improve access is to improve quality which would make coming to school or staying in school a more attractive option from the perspective of parents as well as children. Moreover, efforts to improve quality will tend to increase the efficiency of the public expenditure and will encourage parents to contribute In the year 1950, when the Constitution of Inchildren education'. dia was adopted, education was recognized as a basic individual right. Directive Principles of State Policy, Article 45, states that "the state shall endeavour to provide within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of fourteen years" (The Constitution of India). In line with the commitment of the country to provide elementary education to all children, educational facilities have got tremendously expanded during the post independence period, especially in primary stage. The number of primary school in India has increased from 2.2 lakhs in 1950-51 to nearly 7 lakhs in 2004-05. In addition, there are at present nearly 3 lakhs non-formal education centres providing primary level education to out-of-school children in the age group 9 to 14. This expansion has definitely helped in making primary level education more easily accessible to a large section of children. As a result, the illiteracy rate and drop-out rate at school stage have come down. The national literacy rate has increased from 52.21 per cent in 1991 to 64.84 per cent in 2001. The drop-out rate has also declined from 64.9 per cent in 1960-61 to 29 per cent in 2004-2005. Although the literacy rates for both males and females have increased, the latter still continues to lag behind the former. However, there has been a narrowing of the male-female gap in literacy from 24.8 percentage point in 1991 to 21.7 percentage point in 2001(Selected Educational Statistics 2004-05). UNESCO has always been very concerned that curricula should be relevant and that teachers should be qualified. The quality of education nevertheless depends just as much on the smooth day-to-day operation of the education system at all levels, and primarily at the level of the school itself. UNESCO is therefore exploring other means that could have a considerable impact on the improvement of school achievement including, among others, the provision of textbooks and teaching materials, the use of information for daily management, the training of head teachers in the techniques of educational and administrative management, and the development of measuring instruments making it possible to chart progress. The government of india is focused on building digital india where quality education reaches the most inaccessible corners driven by learning.Like in several other countries in east and south east asia, middle-class indians are known to have fervent zeal when it comes to educating their children. In the asian region, including india, education is considered probably one of the most trusted ways for upward economic mobility, especially for the middle class. However, if india has to emerge as the global economic powerhouse and the startup capital of the world, access to education needs to be pervasive — available to every *child* irrespective of his socioeconomic background. Nothing is simple when strengthening and invigorating such a vast and complex institution as our educational .The learning achievement of the student is very poor in all indian states whether it is educationally backward or forward.

Primary education in India

The National Knowledge Commission (2007) has been emphasizing on 'quality primary education' for making india as a knowledge society in the world. The quality of education mainly depends upon physical infrastructure, qualified and competent teachers, curric-

ulum and instructional materials, support materials and equipments, teaching learning strategies, comprehensive and continuous evaluation and effective management. Unfortunately in our country, where 90 per cent of our primary schools are run by government, most of them are situated in rural areas, lack the average criteria for quality education. The low learning achievement problem in India mostly due to the combination of following factors:

- · Most of the primary schools are shelterless.
- The schools with buildings have insufficient accommodation.
- Students mostly sit on mats.
- · High pupil-teacher ratio.
- Textbooks for teachers, which contain the methods for teaching for every unit of the curriculum, are not provided in time.
- Teaching aids are very old. Information and Communication Technology (ICT) is still not used for teaching in primary education which is recognized as very effective for learning.
- The teachers of public schools often participate in political activity or other profitable activity rather than concentrating in teaching the pupils.
- Most of rural areas of India have their own local dialect. In many states the use of mother tongue as medium of instruction is not followed strictly. This is particularly so in case of the students belonging to linguistic minorities. The students belonging to the linguistic minorities have to study in the language of the linguistic majority of the state.
- Political nature of appointment of the primary teachers is largely responsible for poor quality of teaching.
- Resource materials are never provided in adequate quantity.
- Community support is at the very low.
- A high absentee rate of the students in primary school particularly in rural areas.
- Co-curricular activities have not been given due importance as the teachers of the primary schools particularly of public schools and rural areas consider them as wastage of valuable time. As a result, making learning a fun for the students is not done.
- Inspection system for primary education has become only a ritual.

•Curriculum of primary education is hardly matches the surroundings of the students in which they live. As a result, students often suffer from fish-out-of-water syndrome leading to a high drop-out rate.

Improving quality in schools

For quality improvement, we have to re-think about the idea, structure and system of primary education which have very crucial motivating effects on the students. The teaching-learning environment and quality of education are so unsatisfactory particularly in government controlled primary schools that teachers of those schools themselves prefer to arrange education for their children in a better run school in private sector. The elite and rich groups of the society or village enroll their children in private schools where quality is presumed to be far better than the government schools. So the clients of these public schools are the poorest of the poor, economically and socially downtrodden people. The stakeholders of these schools being weak and vulnerable cannot ensure accountability of the system for quality education. The elite groups are not concerned about this, as their children are safe in private schools. The marginal groups of the society or villages are not in a position to enroll their children in private schools which provide quality education. Due to the economic factor they have to enroll their children in government run primary schools where quality is very poor. So the children belonging to marginal groups are deprived from good quality education and as a result they can hardly climb ladder of development. Some pointers to enhance the quality of education significantly across the board - in private, government aided and government schools.

Students

- 1. Engage: Project-Based Learning
- 2. Connect: Integrated Studies
- 3. Share: Cooperative Learning
- 4. Expand: Comprehensive Assessment

Teachers

5.Coach: Intellectual and Emotional Guide

6. Learn: Teaching as Apprenticeship

Schools

7. Adopt: Technology

8. Reorganize: Resources

Community

9. Involve: Parents

10. Include: Community Partners

Students

1. Engage: Project-Based Learning

After we have the right pool of candidates, we need to empower them and keep them motivated by offering autonomy, resources and competitive compensation .Students go beyond the textbook to study complex topics based on real-world issues, such as the water quality in their communities or the history of their town, analyzing information from multiple sources, including the internet and interviews with experts. Project-based classwork is more demanding than traditional book-based instruction, where students may just memorize facts from a single source. Instead, students utilize original documents and data, mastering principles covered in traditional courses but learning them in more meaningful ways. Projects can last weeks; multiple projects can cover entire courses. Student work is presented to audiences beyond the teacher, including parents and community groups.

2. Connect: Integrated Studies

Studies should enable students to reach across traditional disciplines and explore their relationships, History, literature, and art can be interwoven and studied together. Integrated studies enable subjects to be investigated using many forms of knowledge and expression, as literacy skills are expanded beyond the traditional focus on words and numbers to include graphics, color, music, and motion.

3. Share: Cooperative Learning

Working together on project teams and guided by trained teachers, students learn the skills of collaborating, managing emotions, and resolving conflicts in groups. Each member of the team is responsible for learning the subject matter as well as helping teammates to learn. Cooperative learning develops social and emotional skills, providing a valuable foundation for their lives as workers, family members, and citizens

4. Expand: Comprehensive Assessment

Assessment should be expanded beyond simple test scores to instead provide a detailed, continuous profile of student strengths and weaknesses. Teachers, parents, and individual students can closely monitor academic progress and use the assessment to focus on areas that need improvement. Tests should be an opportunity for students to learn from their mistakes, retake the test, and improve their scores.

Teachers

Coach:The most important role for teachers is to coach and guide students through the learning process, giving special attention to nurturing a student's interests and self-confidence. As technology provides more curricula, teachers can spend less time lecturing entire classes and more time mentoring students as individuals and tutoring them in areas in which they need help or seek additional challenges. It is important to ensure that teachers undergo refresher courses and training at regular intervals. Like in the private sector, e-leaming for teachers can be a solution to ensure continuous teacher training at scale. Opening up the system for teacher evaluation, for example, probably on the lines of RateMyTeachers where students can rate

teachers, will bring back transparency and accountability.

6. Learn: Teaching as Apprenticeship

Preparation for a teaching career should follow the model of apprenticeships, in which novices learn from experienced masters. Student teachers should spend less time in lecture, learning educational theory and more time in classrooms, working directly with students and master teachers. Teaching skills should be continually sharpened, with time to take courses, attend conferences, and share lessons and tips with other teachers, online and in person.

Schools

7. Adopt: Technology

The intelligent use of technology can transform and improve almost every aspect of school, modernizing the nature of curriculum, student assignments, parental connections, and administration. Online curricula now include lesson plans, simulations, and demonstrations for classroom use and review. With online connections, students can share their work and communicate more productively and creatively. Teachers can maintain records and assessments using software tools and stay in close touch with students and families via email and voicemail. Schools can reduce administrative costs by using technology tools, as other fields have done, and provide more funds for the classroom.

8. Reorganize: Resources

Resources of time, money, and facilities must be restructured. The school day should allow for more in-depth project work beyond the 45-minute period, including block scheduling of classes two hours or longer. Schools should not close for summer vacation, but should remain open for student activities, teacher development, and community use. Through the practice of looping, elementary school teachers stay with a class for two or more years, deepening their relationships with students. More money in school districts should be directed to the classroom rather than the bureaucracy.New school construction and renovation should emphasize school design that supports students and teachers collaborating in teams, with pervasive access to technology. Schools can be redesigned to also serve as community centers that provide health and social services for families, as well as counseling and parenting classes.

Communities

9. Involve: Parents

When schoolwork involves parents, students learn more. Parents and other caregivers are a child's first teachers and can instill values that encourage school learning. Schools should build strong alliances with parents and welcome their active participation in the classroom. Educators should inform parents of the school's educational goals, the importance of high expectations for each child, and ways of assisting with homework and classroom lessons.

10. Include: Community Partners

Partnerships with a wide range of community organizations, including business, higher education, museums, and government agencies, provide critically needed materials, technology, and experiences for students and teachers. These groups expose students and teachers to the world of work through school-to-career programs and internships. Schools should enlist professionals to act as instructors and mentors for students.

Conclusion

With the government's emphasis on building digital highways and using digital platforms to make government services transparent and incorruptible, there is renewed opportunity to improve the standard of teaching and learning across government schools- in both urban and rural areas. There have been many other innovative overtures in the area of education technology that can be complementary to traditional offline learning methods. The children of marginal groups should also get the opportunity to access to good quality primary education and can develop their standard of living. This needs to be done in the larger interest of rural india and particularly for the poor who are worst affected due to the degradation of quality of the government primary schools. It is also important to revamp the public sector education system with a particular focus on the quality of primary education.

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