

# Effectiveness of School Input Norms under the Right to Education Act, 2009

**Centre for Civil Society**

**“The RTE in its current form mandates uniformity across a broad range of criteria including detailed specifications for infrastructure of schools, pupil-teacher ratios, teacher qualifications, and teacher salaries. While these norms may be well-intentioned and have the goal of raising education in all states to a minimum standard, there are two problems with this approach. The first problem, which is a conceptual one, is that mandating these norms across the country magnifies the risk of making well intentioned mistakes—because the jurisdiction over which the mistake is being made would be all of India (which is the largest education system in the world). The second problem, which is an empirical one, is that these are *all* input-based standards, and *none* of these inputs appear to care much for learning outcomes”**

**(Muralidharan 2012)**

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## Abstract

The Right of Children to Free and Compulsory Education Act (RTE), 2009 ratified education as a fundamental right and seeks to promote equitable access to education for all children up to the age of 14 years. However, the Act focuses almost entirely on school inputs and not on learning outcomes. The lack of a focus on output has been accompanied by poor learning outcomes, increased pressure on government capacity and the implementation of policies that may not necessarily give the returns in terms of improving outcomes. In this paper, we argue for a case to shift the focus of education investment from inputs to outcomes, outlining the recognition norms defined under the RTE. We review the literature available to examine whether a correlation between input norms and learning outcomes exists and make recommendations for an outcomes-focused policy approach to improving the quality of education.

## Background

The recognition that the development of human capital is essential for the socioeconomic growth of a nation, and that education leads to its development, has led to an increase in investment in education globally as well as in the Indian context. As the Indian expenditure on education as a percentage of GDP increased from 2006 to 2011, learning levels declined over the same period (Pratham 2012 and Case and Deaton 1998).

Education in India significantly lacks quality, despite the progress made in terms of student access, pupil teacher ratios and infrastructure. The Right of Children to Free and Compulsory Education Act (RTE), 2009 ratified education as a fundamental right and seeks to promote equitable access to education for all children up to the age of 14 years. However, the Act focuses almost entirely on school inputs and not on learning outcomes. This focus on inputs has resulted in three undesirable outcomes.

Firstly, a drop in student achievement has accompanied the lack of focus on outputs. As a result, while the Net (primary) Enrolment Rate (NER) increased from 70 to 90 percent over the past decade, learning outcomes have dropped. This is evidenced by results from both national and international surveys (World Bank 2012). At the elementary level for example, only 40 percent of the children in grades four and five could perform subtraction and over 53 percent of students in grade five could not read a grade two level text (Pratham 2012). Moreover, India ranked 73<sup>rd</sup> amongst 74 countries that participated in the Programme for International Student Assessment (PISA), a scholastic study conducted by the Organization for Economic Cooperation and Development, in 2011.

Second, the focus on inputs is forcing the closure of private schools, placing pressure on government capacity to educate children. Sections 18 and 19 of the RTE Act stipulate that no school can be established without obtaining a certificate of recognition from the designated authority and define the standards for school area, classroom size, and number of toilets, pupil teacher ratio, teacher salaries, teacher qualifications and number of library books, that must be met by every established school. It is estimated that the compliance with these standards will lead to a projected four-fold increase in per student expenditure and will place schools operating on low budgets out of reach for most of the students. These schools cater to a large section of the population from disadvantaged sections of society and an increase in fees by 400 percent (CCS unpublished data) will make them completely inaccessible to the current target population.

Third, the focus on inputs has led to the implementation of policies that do not give the return on investment as expected due to inefficiencies in design and poor cost effectiveness. A large

proportion of education spending in India in the past decade has been on improving school facilities and infrastructure, improving teacher salaries and training, hiring more teachers to reduce pupil-teacher ratios, and expenditure on student benefits such as textbooks, and mid-day meals (Muralidharan 2012). While these inputs have led to a visible improvement in access and school facilities such as a reduction in pupil-teacher ratio (PTR), an improvement in the provision of mid-day meals, and infrastructure components such as toilets and electricity (Pratham 2012), they are not necessarily effective in improving learning achievement. Additionally, the system has not been able to keep pace with its own resource intensive initiatives, which are not always feasible to implement or monitor. For example, 46 percent of government schools in India are unable to meet PTR requirements and 47 percent reported a classroom shortfall in 2012 (Dongre and Kapur 2012), while at the same time, the state governments (such as Delhi) report a deficit in the number of schools (Lok Sabha 2012). Choosing which investments to make requires knowledge of their cost and feasibility, as well as their impact on the educational outcomes of students.

This paper argues for a shift in the focus of education investment from inputs to outcomes. It includes an outline of the recognition norms under the RTE, a literature review examining the correlation between input norms and learning outcomes and recommendations for an outcome-based policy approach to improving education quality.

18. (1) No school, other than a school established, owned or controlled by the appropriate Government of the local authority shall, after the commencement of this Act, be established or function, without obtaining a certificate of recognition from such authority, by making an application in such form and manner, as may be prescribed.

(2) The authority prescribed under sub-section (1) shall issue the certificate of recognition in such form, within such period in such manner, and subject to such conditions, as may be prescribed: Provided that no such recognition shall be granted to a school unless it fulfils norms and standards specified under section 19.

(3) On the contravention of the conditions of recognition, the prescribed authority shall, by an order in writing, withdraw recognition:

Provided that such order shall contain a direction as to which of the neighbourhood school the children studying in the de recognised school shall be admitted:

Provided further that no recognition shall be so withdrawn without giving an opportunity of being heard to such school, in such manner, as may be prescribed.

(4) With effect from the date of withdrawal of the recognition under sub-section (3), no such school shall continue to function.

(5) Any person who establishes or runs a school without obtaining certificate of recognition, or continues to run a school after withdrawal of recognition, shall be liable to fine which may extend to one lakh rupees and in case of continuing contraventions, to a fine of ten thousand rupees for each day during which such contravention continues.

**Box 1a: Section 18 of the RTE specifying school recognition and operating norms.**

19. (1) No school shall be established, or recognised, under section 18, unless it fulfils the norms and standards specified in the Schedule.

(2) Where a school established before the commencement of this Act does not fulfil the norms and standards specified in the Schedule, it shall take steps to fulfil such norms and standards at its own expanses, within a period years from the date of such commencement.

(3) Where a school fails to fulfil the norms and standards within the period specified under sub-section (2), the authority prescribed under sub-section (1) of section 18 shall withdraw recognition granted to such school in the manner specified under sub-section (3) thereof.

(4) With effect from the date of withdrawal of recognition under sub-section (3), no school shall continue to function.

(5) Any person who continues to run a school the recognition is withdrawn. Shall be liable to fine, which may extend to one lakh rupees and in case of continuing contraventions, to a fine often thousand rupees for each day during which such contravention continues.

**Box 1b: Section 19 of the RTE specifying school recognition and operating norms.**

23. (1) Any person possessing such minimum qualifications, as laid down by an academic authority, authorised by the Central Government, by notification, shall be eligible for appointment as a teacher.

(2) Where a State does not have adequate institutions offering courses or training in teacher education, or teachers possessing minimum qualifications as laid down under sub-section (1) are not available in sufficient numbers, the Central Government may, if it deems necessary, by notification, relax the minimum qualifications required for appointment as a teacher, for such period, not exceeding five years, as may be specified in that notification:  
 Provided that a teacher who, at the commencement of this Act, does not possess minimum qualifications as laid down under sub-section (1), shall acquire such minimum qualifications within a period of five years.

(3) The salary and allowances payable to, and the terms and conditions of service of, teachers shall be such as may be prescribed.

**Box 1c: Section 23 of the RTE specifying teacher salary and qualification norms.**

## School Norms as defined under the RTE

The RTE specifies the norms and standards for a school. These include norms for teacher characteristics, school organisation as well as infrastructure. The specific norms are outlined in *Table 1* and will be elaborated upon in the following sections.

**Table 1: Norms and Standards for Schools as outlined under the RTE**

<b>Teacher Characteristics</b>
Minimum teacher qualifications and salaries
<b>School Organisation</b>
The minimum number of working days in an academic year and instructional hours in a week
a. Two hundred working days for first class to fifth class
b. Two hundred and twenty working days for sixth class to eighth class
c. Eight hundred instructional hours for first class to fifth class
d. One thousand instructional hours for sixth class to eighth class
e. Forty five teaching hours, including preparation hours
The pupil teacher ratio
f. Up to sixty students – 2 teachers
g. Between sixty-one to ninety – 3 teachers
h. Between ninety-one to one hundred and twenty – 4 teachers
i. Between one hundred and twenty-one to two hundred – 5 teachers
j. Above one hundred and fifty children – 5 teachers plus one Head Teacher
k. Above two hundred children - PTR (excluding Head Teacher) shall not exceed forty

## School Characteristics

School Infrastructure
a. At least one class-room for every teacher and an office cum-store-cum-Head Teacher's room
b. Arrangements for securing the school building by boundary wall or fencing
c. Separate toilets for boys and girls
d. Safe and adequate drinking water facility to all children
e. Playground and the provision of games and sport material to students
Barrier free access
Kitchen where mid-day meal is cooked in the school
Library

## Teacher Characteristics

### Minimum Teacher Qualifications and Teacher Salary

In India, the National Council for Teacher Education (NCTE) specifies the minimum teachers' qualifications and salaries for teachers in government as well as private schools. (Ministry of Human Resource Development 2011) Primary school teachers, for example, need at least a Diploma in Elementary Education and are required to pass the Teacher Eligibility Test in order to teach. Teacher salaries are based on the 6<sup>th</sup> Pay Commission scales.

Teacher quality is an important determinant of student outcome. Chetty et al. predict that a single standard deviation improvement in teacher quality (determined based on a prediction model derived from class quality and teacher experience), in a single year, could generate earnings gains between USD 107,000 and 214,000 for a classroom of 20 students (Chetty 2011). However, the assumption that increasing salary or hiring teachers with higher qualifications can improve teacher quality is based on little evidence and returns to improving teacher qualifications or increasing teacher salary are low. Banerjee et al. experimented with a remedial education program where they hired young women without requisite teacher qualifications to teach students lagging behind in basic literacy and numeracy skills. The program increased average test scores of all children in treatment schools, mostly due to large gains experienced by children at the bottom of the test-score distribution, despite the fact that the teachers were not qualified according to the RTE norms nor were they paid salaries commensurate with the requirements of the 6<sup>th</sup> Pay Commission (Banerjee, et al. 2007).

Additionally a meta-study conducted by Glewwe *et al.*—an independent research study published between 1990 and 2010 to investigate which specific school and teacher characteristics, if any, appear to have strong positive impacts on learning and time in school—

shows that the effect of teachers' level of education on learning outcomes is ambiguous. Of the 13 estimates analysed, ten were statistically insignificant, two were significantly positive and one was significantly negative. Similarly, the evidence of the effect of teachers' experience on learning outcomes was weak. In contrast, direct measures of teachers' competencies showed a positive impact on students' learning (Glewwe, et al. 2011) implying that improving a teacher's content knowledge is more likely to increase student achievement.

## **Policy Implications**

The correlation between teacher salary and student achievement is ambiguous—as shown in studies published by Rivkin, Hanushek and Kain (2005), Kapur (2013), and Pritchett and Filmer (1999)—not only are teacher salaries and qualifications poor predictors of better student outcomes, but they are also less cost effective. Yet teacher salaries form the largest component of education budgets. For government schools, teacher salaries are an ineffective and expensive mechanism of increasing learning outcomes. For private schools (particularly the budget private schools) the same is an infeasible requirement as a large number of these schools operate on very small budgets and cannot afford to pay the teachers these salaries. Instead of simply increasing teacher salaries for government schools or enforcing norms on private schools, therefore, designing appropriate performance-based incentives for teachers could have a greater impact on teacher performance. This conclusion is supported by a number of studies, including those by Hanushek (2006), Muralidharan (2012) and Muralidharan and Sundararaman (2009).

Teacher qualifications are also not necessarily correlated with improved learning outcomes. Given the shortage of teachers in the government system and the expense that private schools need to bear to hire fully qualified teachers, the option of contract teachers might be a cost effective and efficient mechanism of hiring teachers (Atherton and Kingdon 2010) (Banerjee, Banerji, et al. 2006). Moreover, alternative certification mechanisms (which generally provide applicants with the opportunity to earn certification through a streamlined training process, without requiring a degree in education), to enable content experts and professionals from various backgrounds to teach, could be put into place (Sass 2011). Given that investment in teacher qualification and salaries does not demonstrate a clear positive impact on learning outcome and involves considerable cost, resource allocation for these inputs must be made with care.

## School Organisation

### Pupil Teacher Ratio

The RTE specifies a PTR of 30:1 for primary and 40:1 for upper primary schools in India. The impact of PTR on learning achievement is widely debated with some studies claiming that school participation and grade attainment is positively influenced by PTR (Dreze and Kingdon 2001) whereas others report otherwise (Hanushek 2003). In Mozambique, for example, while it was found that reducing pupil-teacher ratio increases grade attainment, a similar effect could be attained by just creating new schools in areas that had no schools (Handa and Simler 2000). On the one hand, in South Africa, marginalised black students benefitted from lower pupil-teacher ratios by demonstrating greater educational attainment and improved test scores (Case and Deaton 1998). A long-term evaluation of the Tennessee Star program in the US found that lowering PTR improved labour market outcomes in the long run (Chetty 2011). On the other hand, increasing teachers has demonstrated limited or no impact on learning in the developing world (Kremer and Holla 2009). One experimental study in India using the RCT methodology failed to find any effect of reduced PTR on learning outcomes. This experimental study provided extra teachers for remedial teaching within school hours and reduced the class size of the existing class and found little impact on test scores (Banerjee, et al. 2007). Even in the developed world, in the US and Israel for example, PTR was found to have little or mixed impact on students in the short run (Angrist and Lavy 1999) (Hanushek, Rivkin and Taylor, Aggregation and the Estimated effects of School Resources. 1996) (Hoxby 2000). Moreover, in the above mentioned meta-study of all education inputs and their impact on learning outcomes conducted by Glewwe et al., five studies were found to have a significantly negative impact of PTR on test scores whereas five found a significantly positive effect. Overall, the impact of PTR on student outcome is quite ambiguous and inconclusive.

### Policy Implications

Decreasing PTR is one of the most expensive school inputs, as it requires increasing the size of the teaching taskforce. Given that the evidence on the impact of reduced PTR on learning outcomes is ambiguous, the effectiveness/efficiency of the input is low and the feasibility questionable, the enforcement of PTR norms should take into consideration factors like geography and overall performance of schools. Muralidharan and Sundararaman (2013) present experimental evidence from a program that provided an extra contract teacher to 100 randomly-chosen government-run rural primary schools in the Indian state of Andhra Pradesh. At the end of two years, students in schools with an extra contract teacher performed significantly better than those in comparison schools in math and language tests (Muralidharan

2012). Therefore, hiring contract teachers might be a cost-effective means of addressing the issue of large class size.

## School Characteristics

### School Infrastructure and Playground

The RTE mandates at least one classroom for every teacher and an office cum-store-cum-head teacher's room, safe and adequate drinking water facility to all children, separate toilets for boys and girls and arrangements for securing the school building by boundary wall or fencing. The impact of improvements in school infrastructure appears to have a mixed impact on learning outcomes. Glewwe et al.'s meta-study concludes that there is a positive correlation between the quality of school walls, roofs and ceilings but not between the availability of electricity and test scores. Additionally, desks, tables and chairs also had a positive impact on student achievement (Glewwe, et al. 2011), as did the availability of drinking water and toilets (Behrman, et al. 1997). On the other hand, using village level panel data, Muralidharan et al., find no correlation between changes in average village level school infrastructure (between 2003 and 2010) and student test scores although they observed improvements in all measures of school infrastructure post the implementation of the *Sarva Shiksha Abhiyan* (SSA) (Muralidharan 2012). Moreover, a study by Behrman et al., in Pakistan demonstrates that improvement in teacher quality and increase in teacher-student contact time are more likely to increase test scores as opposed to improvements in infrastructure (Behrman, et al. 1997). Specifically, an analysis of the implementation of the RTE in India found that infrastructure as outlined under the Act, for example boundary walls, had no impact on learning outcomes (Abogan 2013).

The RTE also requires that every school have a playground and that material for games be provided to students. Participation in extracurricular activities is an important vehicle for children to gain valuable social skills and it is important that schools focus on the academic as well as the non-academic aspects of a child's development. However, the research on the impact of academic gains through sport participation is inconclusive and very little work has been done on the effects of sport participation for lower classes where extracurricular activities are often first introduced (Lewis 2004). Some studies report that students who participate in sports have a stronger commitment to educational accomplishments, higher graduation rates, better social self-concept, and better peer relations than children who do not participate in extracurricular activities at all, as demonstrated by various sources. (McNeal Jr 1995) (Eccles and Barber 1999) (Mahoney, Cairns and Farmer 2003). Additionally, some studies such as those by Lewis (2004) and Trudeau and Shephard (2008) also report that there is a positive correlation

between sport performance and academic ability. On the other hand, some studies indicate that while higher academic aspirations and sense of personal power are frequently reported as benefits of playing sports, participation in athletics has little relative bearing on actual attainment of educational goals (Lewis 2004) (Hanks and Eckland 1976). Additionally, the association between type of extracurricular activity and type of academic gains is unclear, as is the exact mechanism of increase in learning gains through participation in sport.

### **Policy Implications**

A fully functioning school—one with better quality roofs, walls or floors, with desks, tables and chairs—is conducive to student learning. However, infrastructure in and of itself cannot be credited with improved learning outcomes. Moreover, schools with better infrastructural attributes might signal an overall interest in, and commitment to, providing a quality education, thereby demonstrating improved learning outcomes (Glewwe, et al. 2011).

The RTE mandated infrastructure requirements are resource intensive and government schools have failed to meet these requirements even after three years of implementation of the act. Moreover, a large number of private schools struggle to meet some of the RTE-mandated parameters such as playgrounds. In urban areas in particular, not only is the availability of land scarce, but the cost of acquiring it is prohibitively high, making it infeasible for a large number of schools, particularly those operating on small budgets that cater to the socioeconomically weaker sections of society. In a study conducted by the Centre of Civil Society, it was found that temporarily reducing the land requirement for schools from 800 to 200 square meters by the state government of Delhi decreased the potential increase in fee structure from seven times to four times. On these grounds, the Ministry of Human Resource and Development recently issued a notification that allows urban private schools to access nearby parks for the purpose of school playgrounds (Department of School Education and Literacy 2012). Given that the impact of infrastructure requirements, particularly those mandated by the RTE is ambiguous, and some of the norms might even be infeasible based on the geographic and socioeconomic context, it is essential that less weight be attributed to these norms when assessing the functioning of schools. Instead, the overall performance and learning gains should be given a greater weight when norms and standards are determined.

## Recommendations

The state of Gujarat has done some seminal work in this area, with weighted standards that give only 15 percent emphasis to infrastructure and attribute 85 percent to student development and learning. These norms, outlined in Table 2, can be used as a model for implementation of the RTE in order to institute both effective/efficient and feasible policies that have the maximum positive impact on student learning.

**Table 2: School recognition and operation norms outlined by the state of Gujarat.**

	<b>Requirement</b>	<b>Description</b>	<b>Weight</b>
1	Student learning outcomes (absolute levels)	Using standardised tests, student learning levels focusing on learning (not just rote) shall be measured through an independent assessment.	30%
2	Student learning outcomes (improvement compared to the school's past performance)	This component is introduced to ensure that School do not show a better result in (1) simply by not admitting weak students. The effect of school performance looking good simply because of students coming from well-to-do backgrounds is also automatically addressed by this measure. Only in the first year, this measure shall not be available and the weightage shall be distributed among the other parameters.	40%
3	Inputs (including facilities, teacher qualifications)	Norms and Standards of Schools as specified in the schedule of the Act.	15%
4	Student non-academic outcomes (co-curricular and sports, personality and values) and parent feedback	Student outcomes in non-academic areas as well as feedback from a random sample of parents shall be used to determine this parameter. Standardised survey tools giving weightage to cultural activities, sports, art shall be developed. The parent feedback shall cover a random sample of at least 20 parents across classes and be compiled.	15%

## Conclusions

The development of human capital, enhancement of economic productivity and increase in earnings levels depends not only on the inputs to education, but also on the quality of education and student learning outcomes (Hanushek and Woessmann 2007) (Hanushek and Zhang 2006). Over the last five years, India has seen an overall drop in learning achievement. An inputs-based act such as the RTE places a strain on the education budget as far as government-provided education is concerned. This discourages the participation of the private sector, which is not only more effective in imparting cognitive skills to children, but also does so at a fraction of the cost (Pratham 2012) (Kingdon 2007) (Kingdon 2007) (Kingdon 2007) (Kingdon 2007) (Kingdom 2007) (Murlidharan and Kremer 2006) (French and Kingdon 2007).

Instead of a focus on inputs, the emphasis needs to move towards requirements and norms that focus on outcomes and learning achievement. As India attains universal primary enrolment, we need to prioritise education spending to reflect the shift in policy from inputs towards outcomes. Additionally, the cost effectiveness of inputs needs to be borne in mind and policies need to be evidence based, especially in a budget-constrained economy. Education input norms need to take into account local needs when implemented and both, effectiveness/efficiency as well as feasibility of standards needs to be kept in sight when policies are decided.

**Table 3: Summary of impacts on test scores of school variables (from 43 high quality studies) (Glewwe et al., 2011).**

	Negative, Significant	Negative, Insignificant	Zero, or insign. & no sign given	Positive, Insignificant	Positive, Significant	Total Studies
<i>School Infrastructure</i>						
Textbooks/Workbooks	1 (1)	8 (4)	3 (1)	6 (4)	3 (2)	8
Desks/Tables/Chairs	0 (0)	0 (0)	0 (0)	4 (3)	3 (2)	4
Computers/Elec. game	1 (1)	9 (5)	0 (0)	8 (3)	4 (3)	6
Electricity	0 (0)	3 (2)	0 (0)	3 (2)	0 (0)	3
Blackboard/flip chart	0 (0)	2 (2)	0 (0)	2 (2)	2 (1)	3
Library	0 (0)	1 (1)	0 (0)	1 (1)	4 (2)	3
Roof/wall/floor	0 (0)	1 (1)	0 (0)	3 (2)	2 (1)	4
<i>Teacher Characteristics</i>						
Teacher educat. level	1 (1)	5 (5)	0 (0)	5 (4)	2 (1)	6
Teacher experience	1 (1)	10 (6)	0 (0)	12 (7)	5 (2)	9
Tchr knowledge (test)	0 (0)	0 (0)	0 (0)	7 (3)	13 (4)	5
Female teachers	1 (1)	1 (1)	0 (0)	5 (2)	1 (1)	2
Tchr training (in serv.)	0 (0)	3 (3)	0 (0)	0 (0)	3 (2)	3
<i>School Organization</i>						
Pupil-teacher ratio	14 (5)	18 (9)	1 (1)	10 (6)	3 (3)	14
Teacher absenteeism	4 (2)	2 (2)	0 (0)	0 (0)	0 (0)	2
School provides meals	0 (0)	1 (1)	0 (0)	0 (0)	2 (1)	2
Multi-grade teaching	4 (1)	0 (0)	0 (0)	5 (2)	1 (1)	2
Hours of school day	0 (0)	0 (0)	0 (0)	0 (0)	4 (2)	2
Tutoring	0 (0)	0 (0)	0 (0)	2 (1)	2 (1)	2
Contract teacher	1 (1)	0 (0)	0 (0)	1 (1)	4 (1)	2

1. Figures are numbers of estimates; figures in parentheses are number of papers/studies.
2. Includes all school or teacher characteristics with at least two separate papers/studies.

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