

Professional Development of Teachers: The Need of the Hour

As India strives to achieve universal primary enrolment (MDG2) and implements the Right to Free and Compulsory Education Act (2009) well-qualified and effective teachers remain at the heart of school reform. This brief uses analysis from the Young Lives study in Andhra Pradesh to examine teacher characteristics and practices which have a strong, positive effect on student learning outcomes. It uses this evidence to discuss the implications for teacher professional development.

Our findings suggest that characteristics such as length of service and experience, gender, content knowledge and in-service training do not have a significant impact on children's mathematics scores (when we tested them in Grade 5), whereas practices such as regularly correcting their books, proximity of a teacher's residence to the school, and teachers' attitude towards their students and beliefs about their school all have significant influence.

It is easy to understand that teachers with professional qualifications had higher student outcomes than teachers who had only secondary or senior secondary level education themselves. However, the fact that teachers with professional teaching qualifications had no better student outcomes than teachers with no training requires the urgent attention of policymakers.

The importance of effective pre-service training and on-going professional development cannot be overstated if India is to ensure that all children receive an inclusive, quality education. That in-service training does not seem to have any positive effect reinforces that current training leaves much to be desired. Central and state governments need to create conditions which will motivate and inspire teachers by developing and enforcing professional standards and revising training provision as well as the Teacher Eligibility Test to ensure that teachers have both the subject and pedagogical knowledge needed as well as the values and attributes to address the learning needs of all children.

Key findings: Teacher characteristics associated with better student scores

- Students whose teachers had a diploma, degree or Masters in Education scored on average 5% more on our Grade 5 Maths tests than children whose teachers had only secondary or senior secondary education themselves.
- There was no difference between teachers who had a professional education qualification and those with general BA or MA degrees.
- Students whose teachers lived in same village or district as their school scored 5% more than students of teachers who lived outside the block or mandal.
- Students whose teachers regularly corrected their books scored 3.5% more.
- Teachers who feel positively about their schools and believe they are better or same as other schools had almost twice the effect size (9.5 percentage points) on student scores, than teachers with education qualifications.

India has made huge strides in increasing enrolment at elementary level (Grades 1 to 8) due to the Sarva Shiksha Abhiyaan programme (SSA) and the Right to Free and Compulsory Education Act (2009) which makes education a fundamental right for all children aged 6 to 14. Given concerns about how much children learn at school and about the high drop-out rate at elementary level, it is evident that enrolment alone cannot meet the SSA goal of 'Universalisation of Quality Education', reiterated in the 2013 National Policy for Children which aims to: 'Promote affordable and accessible quality education up to the secondary level for all children' (Article 4.6).

There is increasing awareness of the critical role teachers have to play in meeting the demand for quality education, and the Twelfth Five Year Plan: Social Sectors states that while the four main priorities for education policy will continue to be access, equity, quality and governance, Government will place the greatest emphasis on improving learning outcomes at all levels (Section 21.14). The National Curriculum Framework (2005) highlighted that: 'the quality and extent of learner achievement are determined primarily by teacher competence, sensitivity and teacher motivation'. The definition of 'teaching quality' remains highly contested, but there is consensus that good teaching leads to better student outcomes and that teachers are a vital factor contributing to better student achievement.

Policy initiatives

Many policy documents have flagged the importance of investing in teacher development. In pursuance of the National Policy of Education (NPE) 1986 and Plan of Action (1992) major steps were taken by the Central Government to enhance the capacity of teacher education institutions. Nearly 430 District Institutes of Education and Training were established by 1997-98, along with the National Council of Teacher Education (NCTE) in 1995. Following its founding NCTE developed a Curriculum Framework for Quality Teacher Education in 1998, and a revised National Curriculum Framework on Teacher Education in 2009. This Framework tries to ensure that teacher education courses are aligned with the epistemological and pedagogical shift from behaviourism to constructivism (with its emphasis on hands-on, experiential, collaborative learning) envisaged in the 2005 National Curriculum Framework and develop teachers as facilitators of learning.

The 2009 Right to Education Act also attached great significance to the role of teachers in reforming elementary education:

- Section 23 highlights the need for making available trained teachers available for the schooling system, though it relaxed this requirement for certain states until 2015;

- Section 24 specifies the academic duties of teachers, including timely completion of the curriculum, and providing additional support where required;
- Section 27 prohibits teacher deployment for non-academic work and;
- Section 28 bans teachers from giving extra private tuition and has set the norm for a Pupil–Teacher Ratio of 30 to 1 at primary level and 35 to 1 at upper primary.

A Teacher Eligibility Test was introduced in 2010 to ensure that even after teachers have obtained professional qualifications, they are screened to ensure that they have requisite knowledge before joining the teaching force. In 2012, the Justice Verma Commission Report on teacher education was submitted to the Supreme Court and covers a whole range of issues which have a bearing on improving the quality of teacher education as well as improving the regulatory functions of the NCTE. In 2012, the Central Government approved revision of the Centrally Sponsored Scheme on Teacher Education for the Twelfth Plan with an approved outlay of Rs63,080 million in a Centre–State sharing ratio of 75:25 (90:10 for the North-East region) and for the first time the Ministry of Human Resource Development instituted a Joint Review Mission on Teacher Education in 2013.

Key challenges in teacher education

Both the quality and quantity of teachers today poses a major challenge. India has one of the largest systems of teacher education in the world, with more than 85% of all training institutes in the private sector. A key concern is that of 785,227 qualified teachers who sat the newly introduced Central Teacher Eligibility Test in 2011, less than 7% passed, despite all of them having a teaching qualification. Serious concerns regarding the functioning of teacher education institutes were raised by the Justice Verma Commission Report (2012) that stated: 'Preparation of teacher education has remained a weak link in ensuring the quality of pre-service teacher education; and, therefore, the issue of the profile of a teacher educator should receive due attention, transcending the existing thinking on the subject.'

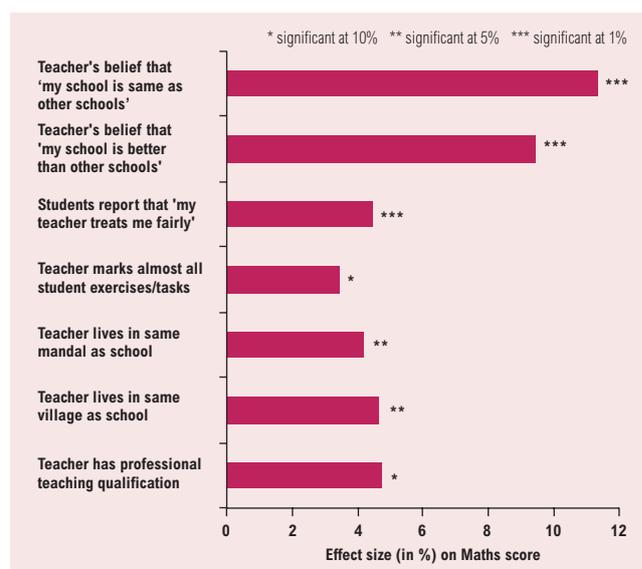
Even if we discount how well prepared teachers are, there are too few teachers to meet the demand. In its 2013 report on *Teachers and Educational Quality*, UNESCO notes that to meet the MDG2 of providing elementary education to all children by 2015: 'India will need the greatest inflow of new teachers in the world – more than 2 million'. At the time the RTE Act was notified, it was estimated that approximately 1.2 million additional teachers would be required to meet the prescribed Pupil–Teacher Ratio in government schools, as well as ensuring that half a million unqualified teachers obtain the requisite qualifications within three years.

The total number of teachers has been steadily increasing, from 39.7 million in 2008-09 to 42 million in 2010-11. During 2010-12 an additional 817,000 posts were sanctioned (for government schools) under the combined RTE-SSA programme. However, there exist large inter-state variations in teacher vacancies, with Uttar Pradesh requiring 165,000 more teachers, West Bengal 53,000, Bihar 51,000, Orissa 38,000, Chhattisgarh 35,000 and Rajasthan 29,500. There are also large intra-state variations in the deployment of teachers, especially between rural and urban schools.

How teacher characteristics and teaching practices affect children's learning outcomes

At a point when the nation is recruiting so many new teachers and investing almost 75% of the education budget on salaries, it is critical to determine what teacher characteristics contribute towards improved student learning outcomes. This policy brief draws on survey data from Young Lives India which has been following 3,000 children in Andhra Pradesh since 2002 and has conducted three rounds of quantitative and qualitative research, as well as a school survey in 2010-11 covering 227 private and government schools. The full findings are presented in a research paper (Singh and Sarkar 2012) and summarised here. The paper used multivariate regression techniques (using household, child, class and school-level characteristics and lagged test scores as controls) and 'value added' specification to establish which teacher characteristics were associated with better student scores.

Figure 1. Marginal effect of teacher characteristics on Maths test score (%)



* significant at 10% ** significant at 5% *** significant at 1%.

Note: Factors we found to be not statistically significant were: Teacher's gender (female); Teacher's experience (in years); Teacher has a BA/MA (not just Secondary/ Senior secondary education); Teacher has MA (compared with teacher with professional qualification); Teacher qualified in 'other subject'; Teacher qualified in Maths; Teacher's content knowledge test score.

Teacher qualifications

The National Council of Teacher Education is named in the RTE Act as the academic authority responsible for setting teacher qualifications, and in July 2011 published norms for primary teachers (at least a Diploma) and upper primary teachers (at least a Bachelor in Education), applicable across all elementary schools across all states. The large shortfall in teacher education institution capacity to meet the Pupil–Teacher Ratio and qualification norms set out in the RTE Act, has resulted in a large number of states requesting special permission to train a large number of currently untrained teachers through distance education courses. While 82% of the teachers in government schools in our survey held professional teaching qualifications,

only 57% of teachers in private schools were professionally qualified. Worse still, 13% of teachers in government schools and 12% in private schools held only secondary or senior secondary qualifications.

Not surprisingly, the data from Young Lives clearly show that teachers with only secondary or senior secondary education themselves have poorer student outcomes compared with professionally qualified teachers or those with general BA or MA degrees. The evidence supports the proposed new norm that would eliminate the existence of unqualified teachers with no college-level education.

It is also relevant to ask what type of qualification makes a difference. We looked at whether children with professionally qualified teachers did better than students whose teachers had general degrees, and found no difference between these two groups. Further, having a teacher with a Maths specialisation did not result in a significant effect on student Maths test scores, which may be because the children tested were still in primary classes (and specialisation may be more important for older children). In-service training, experience and gender also had no effect on student learning levels (full results are presented in Singh and Sarker 2012).

Teacher residence

Our findings reveal that teachers who lived in the same village or town as the school had a greater impact on students' scores than teachers who lived in another village or town outside the mandal. While 64% of teachers in low-fee private schools lived in the same village as their school, only 36% of government school teachers did. Moreover, teacher absenteeism (reported by the children) was higher by 10 percentage points in government schools (39%) and significantly lowered students' scores.

This raises the immediate concern that government teachers should be posted in schools closer to their homes, not only to avoid them having to travel long distances (with the consequent late arrival and frequent absenteeism), but also to counter the social distance that may arise between teachers and students from very different backgrounds (and indeed the risk that educated urban teachers might 'look down' on or appear to be inaccessible to rural children). As the RTE is implemented, it is critical for teacher deployment to both meet the PTR norm and ensure that teachers are located closer to their homes. Ideally, teachers should belong to the local community to help control teacher absenteeism and to ensure that time which would otherwise be spent in travelling long distances can be utilised more fruitfully to support their students' learning.

Pedagogical content knowledge

We tested teachers' subject knowledge and although their test scores levels had a positive impact on children's scores, this was not statistically significant. In our school survey, however, we found that students whose books had been checked regularly by the teacher had significantly higher scores. The fact that only 15% of government school children had their books checked is therefore a real cause for concern and an easy target for improvement. This highlights how important both 'guided and independent practice' followed by feedback to the child, are critical for enhancing learning. Teachers require not only

content knowledge, but also pedagogical knowledge, which is a combination of instructional knowledge, knowledge about students' learning styles and their current understanding, as well as curriculum adaptation and differentiation for different learning styles, levels and abilities.

Teacher disposition

A key conclusion of our study was that teacher behaviours and attributes such as positive beliefs about their schools and impartial behaviour towards their students are important teacher characteristics that positively influence students' learning outcomes. Our analysis shows that children's perception of their teacher is different between school type: while almost a quarter of children in government schools perceived teachers to be biased, only one in six children in private school thought the same. We also found that only half of the teachers in government schools thought highly about their schools, compared with 80% in private schools. Ultimately it is these teacher beliefs and attitudes towards their students, their school, and teaching and learning more generally that interact with their content knowledge to shape the way they are able to transmit their subject knowledge to learners. Our analysis clearly shows that is 'what the teacher does and believes, rather than what the teacher knows' that ultimately counts for their students (Singh and Sarker 2012).

Policy implications

India is currently facing the huge challenge of meeting the RTE norms in terms of training the large number of untrained teachers who are working within the school system as well as preparing a cadre of new teachers. As the Young Lives test results show, teacher beliefs and practices are just as important, if not more so, than professional qualifications alone. Therefore teacher preparation needs to be given absolute priority. It is apparent that learning to teach is an on-going process involving pre-service teacher training, induction and beginning to teach, as well as on-going professional learning (Coolahan 2002). Careful selection and adequate preparation of new and existing teachers is essential if we are to increase student learning and close the achievement gap for the most disadvantaged children.

The new expectations related to teacher effectiveness must inevitably generate new paradigms and implications for teacher education, requiring the reconceptualisation and redesign of both pre-service and continuous in-service training and development. We cannot expect teachers to be effective in such a complex and changing environment unless the aims, content, process, methodology, as well as the culture of teacher education, undergoes a paradigm shift. Only then will it be possible to realise the dream envisioned in the National Policy of Education, that: 'teachers should have the freedom to innovate, to devise appropriate methods of communication and activities relevant to the needs and capabilities of and the concerns of the community' (NPE 1986: 25).

Our finding that teachers with teaching qualifications (DiplEd/ BEd/MEd) do not achieve better results for their students compared with teachers with general BA or MA degrees, along with national data showing the vast majority of qualified teachers to have failed the Teacher Eligibility Test, is convincing proof – if more were needed – that the system of teacher

education is in need of urgent reform. To address the huge variation among teacher training institutes and to strengthen accountability, professional standards for teachers need to be developed through the creation of a nationally available, valid, and reliable teacher performance assessment. All teacher education programmes must be subject to the same accountability provisions to ensure consistency and to ensure that equal emphasis is paid during this critical stage of teachers' professional development not only to content but more importantly to fostering positive practices, beliefs and disposition, which all have significant bearing on student learning.

To achieve this, the design of the teacher training curriculum must aim to provide trainee teachers with the opportunity to indulge in self-study, reflection, interactions with other teachers and most importantly with classrooms and students, so that they emerge as lifelong learners themselves. The course curriculum for both pre-service as well as in-service professional development programmes need to be revisited to ensure that teachers can acquire the requisite attributes related to pedagogical content knowledge, with an emphasis on practical hands-on learning and peer collaboration among teachers. Deep subject knowledge, the skill to use that knowledge effectively in the classroom, and the ability to connect with students, to engage them, inspire them and understand what and how they learn best, are the outcomes that every teacher education institute must aspire to instil in their trainees.

If we are to achieve this, there is a need to move away from recruiting teachers based only on professional credentials and the Teacher Eligibility Test, towards also assessing teachers' attributes, competencies in effective pedagogical skills and

instructional strategies. We must attract the very best talent to enter the teaching profession and we must establish a rigorous set of procedures and requirements that prospective teachers must satisfy before enrolling in a teacher training course. Furthermore, a probationary period in which teachers receive good induction, mentoring and robust appraisal needs to be instituted for teachers before they receive a permanent contract and promotion.

Teacher cadre management and teacher deployment needs immediate attention. Teachers should be located in schools close to their homes, so that teacher absenteeism and the possibility of social distancing are reduced.

Much current education policy focuses on improving teacher quality, but many policies lack a strong evidence base. The demand for more teachers in recent years has led to a massive expansion the number of institutions and courses at various levels, but without any accompanying attention to infrastructure, faculty qualification and learning resources. A key challenge is to use evidence and research to develop specific understandings of what constitutes quality teaching in order to inform a long-term approach to improving and supporting teacher quality across all states.

Throughout India's modern education history there has been a tension between education as builder of human capital for economic growth and education as tool for social transformation and the removal of social and economic inequalities (Little 2008). It is time that teacher education was transformed to bring about the change we are envisioning. Teacher pre-service training and professional development must become pivotal and be placed at the heart of our ambitions to improve education for all.

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