Para-Teachers in India: Status and Impact

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Para-teachers, sometimes called "contract teachers", are being hired in increasing numbers in many Indian states. While hiring conditions, tenure, remuneration, and qualifications vary considerably across states, the use of para-teachers has generated debate about their impact on the quality of elementary education. Based on a critical literature review of available studies and new evidence from the SchoolTELLS survey conducted by the authors and their collaborators, this paper summarises the proof regarding the functioning and impact of para-teachers in elementary schools in India. None of the studies reviewed evaluates the causal impact of para-teachers, but they do suggest that despite poorer training, para-teachers may be more cost-effective than regular teachers. The questions of career progression and equity for teachers, nonetheless, also need to be addressed.

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There are both champions and detractors of para-teacher schemes in India. Champions claim that these schemes reduce pupil-teacher ratios (PTRs), eliminate single teacher schools, lower the cost of providing elementary education and may increase teacher accountability to local panchayats. Detractors, on the other hand, rue the lower professional training and allegedly lower educational qualifications of para-teachers (compared to regular teachers), and they also dislike the dual salary structure whereby para-teachers are paid much lower salaries than regular teachers within the same schools. But what does the empirical evidence say? This paper brings together the available research on these issues.

The hiring of contract teachers has been controversial in academic and policy circles and among teacher unions. The divisiveness of the issue of para-teachers is reflected in the disparate and often conflicting viewpoints expressed in various documents of the government of India (GOI). There are conflicting statements about para-teacher schemes in documents of the Planning Commission, Parliamentary Standing Committee on Human Resource Development, Working Group report for the 11th Five-Year Plan, and the National Council for Education Research and Training's (NCERT) National Curriculum Framework (Kingdon and Sipahimalani-Rao 2009). Teacher unions are not in favour of contract teachers, being concerned about their lack of training, the unfairness of their lower pay scales and the perceived lower quality of teaching when teachers are hired on contract.

Several states have dealt with legal issues and court cases regarding contract teachers. These have, for the most part, dealt with contract teacher demands for becoming absorbed into the mainstream and for improving pay scales and service conditions. Some states such as Gujarat, Orissa, Maharashtra and Himachal Pradesh have managed to mitigate this problem by guaranteeing para-teachers a permanent position to replace a retiring teacher when their contract expires (All India Primary Teachers' Federation (AIPTF) 2008). Para-teachers in Bihar are also appointed for life.

This paper summarises the current information and evidence regarding the functioning and impact of para-teachers in elementary schools in India. The last review was by Govinda and Josephine (2004). However, a number of new studies have been written since 2004 and growing numbers of para-teachers have been hired in many states. This review captures these changes and draws together evidence and issues from varied sources. First, however, it is appropriate to set the scene with some basic information about para-teacher schemes.

1 Para-Teachers in Elementary Education

The elementary education sector in India grew rapidly over the last six decades since independence. The number of basic schools

increased fivefold between 1950 and 2005-06 and enrolment rose about eightfold over the same period.[1] The 1990s were a period of great surge in primary-level enrolment as the government focused greater attention and resources on elementary education. This expansion put a lot of pressure on the system. The PTRs, already high in most states, rose further in the 1990s. The average national PTR for primary and upper primary classes rose from 35.6 in 1950 to 50.2 in year 2000.[2]

At the same time, many states were experiencing severe fiscal deficits. This made hiring the large number of required new teachers difficult, as it would mean adding a permanent recurrent liability of teacher salaries to the state budget. These constraints gave birth to the idea of a "para" teacher – sometimes referred to as a contract teacher. As more para and regular teachers were hired in the past decade, the average national PTR fell to 35.7 in 2005-06.[3]

The exact definition of a para-teacher varies amongst different states. For the purposes of this study, the term para-teachers is used in the same sense as in a recent study: as a "universe of teachers in primary and upper primary schools who have been appointed on contract and/or on terms and conditions which are different from the regular cadre teachers in the state" (National Council for Applied Economic Research (NCAER) 2008).

Para-teachers are prevalent in other countries as well and are usually also hired from the local community, as in India.[4]

However, unlike in India, in many European countries, they play the role of an assistant teacher and work as teacher aides. In India, they are often appointed to *replace* regular teachers, not to *assist* them, and often teach different grades than regular teachers.

Para-teachers are a fairly recent phenomenon in India. A few states such as Himachal Pradesh and Rajasthan began hiring them in the mid-1980s for specific projects. The trend spread to several other states in the 1990s and their numbers have grown in most states since. The states that have chosen not to hire or hire very few para-teachers, such as Kerala, Karnataka and Tamil Nadu in the south, are those with stabilising child populations, and therefore those that have not experienced acute teacher shortages. Most states in the rest of the country have chosen to either continue to hire both regular and para-teachers, such as in Uttar Pradesh (UP) and Bihar or recently chosen to hire *only* para-teachers as new teachers, such as Madhya Pradesh (MP).

The next section presents the latest data on the number and status of para-teachers in the states along with their academic and professional qualifications. The following section summarises studies on the impact of para-teachers on the quality of education in India and distils key emerging issues. The last section concludes with suggestions for future possibilities regarding para-teachers.

2 Current Status of Para-Teachers in India

There is no clear definition of a para-teacher which is uniformly used all over India. The nature of their hiring, salaries, training and qualification requirements differ across states. While the main defining feature of para-teachers until recently was that they were hired on a contract and did not have permanent tenure like the regular teachers, large numbers of para-teachers were hired in 2006 and 2007 in the northern state of Bihar, on permanent tenure, without having to meet the same academic or training qualifications as regular teachers. Thus the contract feature no longer defines all para-teachers in India. Similarly, having lower qualification requirements than regular teachers is also not the unique defining characteristic of para-teachers in India as a whole, since in Gujarat and Maharashtra, the qualification requirements for para-teachers are the same as for regular teachers. For the purposes of this paper then, the term para-teachers is used to mean all teachers who are appointed either on contractual terms or on terms and conditions different from regular government teachers.

In some states, para-teachers are hired by the local government, i e, the panchayats; in others, the school committees and village education committees (VECs) are responsible for hiring them. The tenure varies between 11 and 60 months. However, in most states, the tenure can be extended if their teaching performance is deemed satisfactory. Govinda and Josephine (2004) estimated that 95% of para-teacher contracts were renewed each year.

Data from the District Information System on Education (DISE) – which is collected annually from all (million-plus) Indian elementary schools by the National University of Educational Planning and Administration (NUEPA) – show that para-teachers comprise 16% of all teachers at the primary level and less than 10% at post-primary levels (Mehta 2008). The majority of para-teachers are in the states of Andhra Pradesh (AP), Bihar, Chhattisgarh, Jharkhand, MP, Rajasthan and UP, which together hire 68% of all para-teachers across the country. The southern states of Kerala, Karnataka and Tamil Nadu, all of which have stabilising child populations and less pressure to hire new teachers, have a negligible percentages of para-teachers. In addition, the more affluent north-western states of Haryana, Punjab, Maharashtra and Gujarat depend much less on para-teachers, both in primary and higher grades. On the other hand, several states have discontinued hiring regular teachers altogether in government schools; new hires are only para-teachers.

According to DISE data, 5,14,000 para-teachers (9.9% of all basic school teachers) were working nationwide in 2006-07. Further, 5.9% of all basic schools in 2006-07 had only para-teachers (Mehta 2008:157).[5]

An important fact emerges in examining the *actual* educational qualifications of para- and regular teachers. Despite the commonly held view that para-teachers are less qualified, in fact, the academic qualifications of para-teachers are overall somewhat higher than those of regular teachers (Table 1). For example, only 14.5% of para-teachers in primary schools have "secondary

Table 1: Academic Qualifications of Para- and Regular Teachers

	All Areas		Rural		Urban	
	Regular	Para	Regular	Para	Regular	Para
Below secondary	4.1	3.7	4.2	3.7	3.7	3.5
Secondary	22.3	10.8	23.0	10.7	18.9	13.2
Up to lower secondary	26.4	14.5	27.2	14.4	22.6	16.7
Higher secondary	29.3	39.4	30.5	39.8	23.6	31.0
Graduate	29.8	32.9	28.4	32.7	36.7	37.2
Postgraduate	14.5	13.2	13.9	13.1	17.1	15.1
Graduates and postgraduate	44.3	46.1	42.3	45.8	53.8	52.3

Source: Compiled from Mehta (2008: 149, 156).

or less" qualifications but among the regular teacher group, the same proportion is 26.4%, i e, regular teachers are almost twice as likely to have "high-school or less" education than para-teachers. Table 1 further shows that the percentage of para-teachers that have graduate and postgraduate qualifications is similar to the percentage of regular teachers with these qualifications. Thus, taking all teachers together, para-teachers are more educated than regular teachers, on average, because they avoid the very low levels of education, i e, high school or below. The recent NCAER study (2008) and SchoolTELLS data (Kingdon et al 2008) for rural UP and Bihar also found similar results (Kingdon and Sipahimalani-Rao 2009).

There are various explanations for why the academic qualifications of para-teachers may be better than those of regular teachers, though the minimum qualification requirements for them are lower. First, para-teachers are substantially younger in age, on average, than regular teachers, and younger cohorts have higher education levels than older cohorts. SchoolTELLS data (Kingdon et al 2008) indicate that para-teachers were, on average, 15 years younger than regular teachers in Bihar and 18 years younger in UP. Table 2 illustrates this using national DISE data.

Table 2: Age Profile of Regular and Para-Teachers

	18-25 Years	26-35 Years	36-45 Years	46-55 Years	Above 55 Years	No Response
Male						
Regular teacher	9.5	30.7	26.3	20.0	8.0	5.4
Para-teacher	25.3	51.2	12.7	2.0	1.4	7.3
Female						
Regular teacher	7.6	32.5	26.4	17.0	4.3	4.2
Para-teacher	39.0	39.5	9.9	1.7	1.1	8.8

Source: Compiled from DISE 2005-06 data (Mehta 2007).

Second, the high levels of graduate unemployment in the country suggest there is no shortage of graduates applying for para-teacher positions. As Table 3 shows, a rural graduate unemployment rate of over 11% implies there is a supply of graduates and postgraduates for para-teacher jobs.

Table 3: Unemployment Rates, By Education Level and Area (Persons Aged 15-70)

Education Level	Rural	Urban
None	2.7	2.9
Less than primary	3.2	3.7
Primary	3.4	5.1
Middle	4.6	7.9
Secondary	6.4	7.7
Higher secondary	8.6	9.4
Graduate	11.7	10.1
Postgraduate	10.5	10.4

Source: Authors' calculations; NSS 61st round 2004-05 (GoI 2006).

While para-teachers have similar or somewhat higher academic qualifications than regular teachers, a large proportion do not possess any professional teacher qualifications, i e, pre-service teacher training. Table 4 shows that while 55% of para-teachers were untrained, only 18% of regular teachers were. The NCAER study (2008) finds that about 45% of para-teachers in their sample were untrained, though the proportion was higher in the northern states. This latter finding is borne out by our own SchoolTELLS survey in rural UP and Bihar, which shows that 96 (85)% of para-teachers in UP (Bihar) lacked pre-service training, compared to only 11 (20)% of regular teachers in UP (Bihar) (Kingdon et al 2008).[6]

Nevertheless, most states do have some kind of induction training for para-teachers (varying from seven days to two months). Interviews with head teachers revealed that the large majority of them felt that the induction training, and in-service training given to both regular and para-teachers, helped para-teachers "increase their teaching competence" (NCAER 2008).

Table 4: Professional Qualifications of Para- and Regular Teachers

	All Areas		Rural		Urban	
	Regular	Para	Regular	Para	Regular	Para
JBT or equivalent	32.0	14.2	33.4	14.6	25.1	9.3
SBT or equivalent	24.2	7.6	23.7	7.4	26.5	9.8
BEd or equivalent	21.7	14.2	20.5	13.2	27.7	26.6
MEd or equivalent	1.2	1.5	1.1	1.4	1.7	3.2
Others	2.7	7.5	2.7	7.5	3.2	6.6
No response*	18.1	55.1	18.6	56.0	15.8	44.5

*Includes teachers without any professional qualifications.
Source: Compiled from Mehta (2008: 151, 159).

The wages paid to regular and para-teachers differ across states. The AIPTF (2008) study documents wages paid to para-teachers in some states. The Table 5 summarises these findings.

The highest remuneration to para-teachers is in the state of Delhi. In Chhattisgarh, Jammu and Kashmir and MP, there are different honoraria for different grades of para-teachers. In Bihar, Himachal Pradesh, Jharkhand and Maharashtra, trained and untrained para-teachers are paid different honoraria. The NCAER (2008) study also reports differences between remuneration paid to regular and para-teachers. For their sub-sample of 12 states, the reported remuneration to para-teachers is the same as that found by AIPTF. Table 5 also reports the ratio of para-teacher to regular teacher wages in a few states. It is clear that all states pay para-teachers a fraction of their regular counterparts. In West Bengal, para-teachers are paid about 14% of the wages of regular teachers, though the simple average ratio across the reported states is 36%.

Table 5: Comparison of Monthly Wages of Regular and Para-Teachers for Selected States (Indian Rs)

State	Regular Teachers (Mean Pay in 2004-05)	Regular Teachers (Mean Pay in 2007)*	Para- teachers (Mean pay in 2007)	Ratio of Para- teacher Pay to Regular Teacher Pay
AP	5,642	6,488	1,500	23.1
Bihar	8,497	9,772	4,000**	40.9
Gujarat	6,756	7,769	2,500	32.2
Jammu and Kashmir	5,751	6,614	4,500	68.0
MP	5,418	6,231	3,500	56.2
Maharashtra	8,548	9,830	3,000	30.5
Rajasthan	6,892	7,926	2,000	25.2
UP	7,516	8,643	3,000	34.7
West Bengal	9,289	10,682	1,500	14.0

* For these calculation, NSS (2004-05) 61st round data for regular teachers' wages was inflated to 2007 using the All India Consumer Price Index for Industrial Workers. We identified teachers using the NSS three-digit occupation codes, and took the subset of those reporting being in public (as opposed to private) sector and regular (as opposed to casual) wage employment. It is possible that many para-teachers reported themselves as regular wage employees in the NSS and that, as a result, our estimate of mean pay of regular teachers is biased downwards, and more heavily so for states that have a higher proportion of para-teachers, such as MP, Bihar and UP.
**In Bihar there are two types of para-teachers, and those appointed after 2006 are paid Rs 4,500 per month, rather than Rs 4,000.
Source: Authors' calculations based on NCAER (2008) for para-teachers' wages, and NSS data 2004-05 (GoI 2006).

3 Impact of Para-Teachers on Quality of Education

The large-scale appointment of para-teachers in many Indian states has been a very contentious issue amongst education practitioners, policymakers, academics, parents and teacher unions. Critics point to para-teachers' lower qualifications and lack of professional training as the reason for the poor quality of teaching in elementary schools. Supporters argue that introducing

para-teachers has helped lower the PTR and reduced the number of single-teacher schools at an affordable cost. In addition, since para-teachers are locally hired, it is thought they may be absent less often and be more accountable to the VECs, the school management committee and parents. But these supposed benefits have not been systematically tested.

What is the impact of hiring para-teachers on the quality of teaching and learning in the classroom? Unfortunately, there is no randomised evaluation study available to test this question robustly in India. This section draws together the evidence based on the studies so far. The evidence is suggestive but not necessarily causal or conclusive.

Teacher Absence Rates and School Functioning

Teacher Absence*:* Several studies estimate and compare the absence rates of regular and para-teachers. A recent EDCIL study on teacher absence in government schools in India concludes that absenteeism among para-teachers is lower than that among regular teachers by 17.9% in AP, 2.2% in MP and 9.3% in UP (2008). Kremer et al's (2005) study on teacher absence in India found a 25% absence rate among government primary schoolteachers but no statistically significant difference in the absence rates of contract teachers and regular teachers, even though the former are paid a fraction as much as regular teachers.

The SchoolTELLS study by Kingdon and Banerji (2009) finds that in UP, para-teachers' absence rate was half that of regular teachers (12% instead of 25%), but that in Bihar, absence rate were similar between the two teacher types (21% among para and 22% among regular teachers). One plausible explanation for the Bihar result is that, unlike in most other states, Bihar para-teachers have jobs for life and thus face the same accountability pressures as regular teachers. Another potential explanation is that the Bihar, para-teachers that were appointed in 2006-07 were not recruited locally because the government of Bihar had to comply with a court order requiring it to give preference, in recruitment of para-teachers, to individuals who possessed a teacher training qualification, even they were not local to the panchayat.[8]

A study by Sankar (2008a) in AP, MP and UP found that para-teachers were absent from school for substantially fewer days than regular teachers. The difference was most apparent in AP where para-teachers were absent for only 7.5 days a year as opposed to regular teachers who were absent for 25.4 days. Regular teachers in all three states mentioned being called upon to spend more days in official duties, training, meetings, non-academic and administrative duties than their para-teacher counterparts. However, regular teachers also took many more leave days compared to para-teachers, and this last reason is the most dominant reason for the difference in the overall absence rates of para- and regular teachers, as seen in Table 6.

Table 6: Average Number of Days Lost between School Functioning Time and Teachers' Physical Presence Time

	AP		MP		UP	
	Regular	Para	Regular	Para	Regular	Para
On personal leave	15.2	5.0	11.9	8.1	10.1	0.9
Official duty of other departments	1.9	0.3	2.7	0.4	3.3	2.7
Training/meeting of the education department	6.1	1.5	6.4	5.8	5.1	7.9
Education-related, but non-academic duties	0.9	0.3	3.7	2.1	5.4	3.4
Administrative duties	1.3	0.4	4.5	1.4	3.3	0.6
Overall	25.4	7.5	29.3	17.8	27.3	15.6

Source: Sankar (2008a: 37).

The authors of the EDCIL (2008) study also analyse teachers' absence within a regression framework. They say that para-teachers' lower absence rate is explained partly by para-teachers having fewer official duties outside school and partly by differences in their contract conditions, namely para-teachers having renewable contracts while regular teachers have jobs for life (EDCIL 2008: 10).

The more stringent school fixed effects regressions using SchoolTELLS data in Table 7 support these results for UP.[9] Focus first on the UP regressions for teacher absence rates. The first column shows that teachers with MA have higher absence rates (than those with "less than BA education", which is the base category for teacher education). It also shows that teachers with pre-service teacher training have significantly higher absence rates than those without pre-service training. However, MA and training may be highly correlated with teacher type (para- versus regular teacher), so in the second column, we introduce the teacher-type dummy variable for para-teacher. Its inclusion does not affect the coefficient on MA much but the coefficient on pre-service training variable changes dramatically, reflecting its very high negative correlation with the para-teacher dummy variable (since para-teachers are much less likely to have pre-service training than regular teachers). It is clear that teacher absence rate among para-teachers is 12.4 percentage points lower than that among regular teachers and that this difference is statistically very significant.

Table 7: Teacher Absence Rate for Government Schools Only: School Fixed Effects Regressions

	UP			Bihar		
Male	0.035	0.035	0.047*	0.005	0.002	-0.000
	(1.44)	(1.46)	(1.94)	(0.20)	(0.07)	(-0.01)
BA	-0.028	-0.016	-0.007	0.023	0.018	0.020
	(-0.87)	(-0.50)	(-0.22)	(0.87)	(0.69)	(0.76)
MA	0.105***	0.109***	0.107***	0.020	0.011	0.013
	(3.11)	(3.24)	(3.23)	(0.58)	(0.31)	(0.36)
Pre-service training	0.088***	-0.022	-0.038	-0.014	-0.053	-0.053*
	(3.54)	(-0.43)	(-0.75)	(-0.51)	(-1.62)	(-1.65)
Tenure	0.006	0.005	0.006	0.010	0.010	0.009
	(0.70)	(0.70)	(0.71)	(1.61)	(1.50)	(1.40)
Tenure-squared	0.000	0.000	0.000	-0.000	-0.000	-0.000
	(0.14)	(0.00)	(0.06)	(-1.53)	(-1.62)	(-1.53)
Para-teacher		-0.124**	-0.107**		-0.075**	-0.072**
		(-2.47)	(-2.13)		(-2.13)	(-2.06)
Para-teacher (06-07)					-0.036	-0.042
					(-0.96)	(-1.14)
Travel time (hours)			0.074***			0.043***
			(2.72)			(2.63)
Observations	315	313	315	461	461	461
R-squared	0.18	0.07	0.20	0.01	0.02	0.04

t-statistics in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. The base category for teacher type is government regular teacher. There were 63 sample government schools in UP and 71 sample government schools in Bihar. In UP, there is only one type of para-teacher. In Bihar, the para-teachers appointed in 2006-07 differ from those appointed before in that they were not required to be local and they are more likely to be those with pre-service teacher training.
Source: Authors' calculations from SchoolTELLS data (Kingdon et al 2008).

Next we wish to ask whether the reason for para-teacher's lower absence rate is that they are more local, i e, that they live

closer to the school than regular teachers do. We capture this by adding the variable "travel time to school each day" in the last column for UP. The variable has a significant positive coefficient, implying that teachers who have to travel further have higher absence rates. The inclusion of this variable causes the coefficient on the para-teacher dummy variable to fall but the decline is only modest (from -0.124 to -0.107). This suggests that being more local is only a relatively minor part of the reason why para-teachers have lower absence rates. There is something else about being a para-teacher that is more important in explaining their significantly lower absence rates than regular teachers in UP. One potential explanation is that para-teachers face greater accountability pressures than regular teachers, if they are lax in their work, since they have annually renewable contracts. This is similar to the reason advanced by EDCIL, that "contract teachers would be more cautious in absenting themselves from school frequently while regular teachers do not fear any adverse effect of absence on their job" (2008: 20).

This explanation is also supported when we examine the results for Bihar in Table 7. As in the raw data, so also in the regression analysis, there is no difference in the absence rate of para- and regular teachers in Bihar. Plausible reasons for this were discussed earlier, namely that (a) a high proportion of Bihar para-teachers are not local to the panchayat where their school is situated, and (b) unlike UP, Bihar's para-teachers have jobs for life rather than annually renewable contracts, so the accountability pressures they face are no different to those faced by regular teachers.

School Functioning

The 2004 report by Govinda and Josephine based its observations about the impact of para-teachers on some field documents and on one District Primary Education Project (DPEP) study reported in EDCIL (1999).[10] Their review of field observations revealed poorer infrastructure facilities and a higher incidence of multigrade teaching in the para-teacher only schools, which are typically situated in the more remote areas. This makes the teaching environment in these schools more difficult. However, Govinda and Josephine (2004) reported that the EDCIL study also revealed a number of positive aspects stemming from the para-teacher being from the local community. It found that these schools had increased the access of poor and marginalised groups to education, that local teachers had good community linkages, and that schools functioned relatively regularly even in remote areas (Govinda and Josephine 2004: 92). The most recent study on para-teachers concluded that an important benefit of hiring para-teachers had been the lower PTR (NCAER 2008).

Professional Development of Para-Teachers

As discussed in the previous section, a large proportion of para-teachers do not have professional qualifications, i e, pre-service teacher training. A few studies have analysed the kind of professional training and support available to para-teachers since this may have a bearing on the quality of teaching and learning in the classroom.

An early DPEP study analysed the role of para-teachers in five programmes – the Shiksha Karmi Project in Rajasthan, the Volunteer Teacher Scheme in Himachal Pradesh, and the Shiksha Karmi Yojna, the Education Guarantee Scheme and the Alternative Schooling Programme in MP. The study concluded that para-teachers had not received any useful pre-service or in-service training, as evidenced by their conventional teaching methods, which focused heavily on rote learning. While the training curricula seem well-designed, a good training methodology was found to be lacking (EDCIL 1999: 97). However, no regular government teachers were included for the purposes of comparison.

This finding was reiterated in recent studies by Pandey and Rani (2007) and Pandey (2006), who found that para-teacher training programmes were ineffective in focusing on the actual training needs of the teachers and that the training was supply rather than demand-driven. The training curricula did not cater to the realities of the classroom that most para-teachers faced, namely a multigrade situation with large class sizes.

Govinda and Josephine (2004: 30) also discuss the inadequate training given to para-teachers in UP. They say respondents were "unanimous in voicing the opinion that the training given to them is far from adequate for performing their job effectively".

The recent NCAER study on para-teachers found that while almost half of all para-teachers are untrained, most states did have induction training for para-teachers of varying lengths from seven to 60 days and that about 82% of para-teachers also received in-service training during 2006-07 (NCAER 2008).

Policymakers emphasise that para-teachers do get the same professional training as regular teachers in accordance with the National Council of Teacher Education (NCTE) norms, except that for most states, the training methodology is one of a distance mode administered by the Indira Gandhi National Open University (IGNOU) to suit the needs of para-teachers. State Councils for Educational Research and Training (SCERTS) in some states have also developed their own curricula.[11]

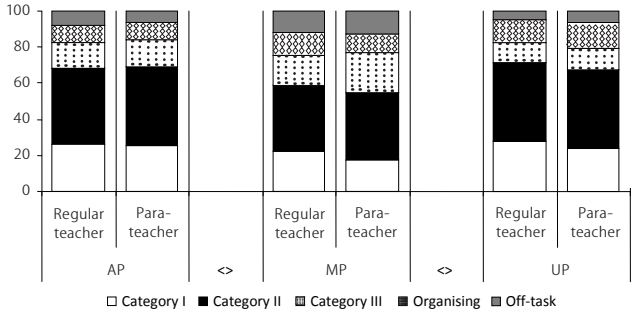
The quality of teacher training is a matter of serious concern for regular teachers as well. In interviews conducted in August 2007, Poonam Batra and Anita Rampal, academics and teacher trainers at Delhi University, lamented the general decline of pre-service teacher education for regular teachers and highlighted the need for better teacher training to improve the quality of teaching – whether the teachers are regular teachers or para-teachers.

Classroom Transaction and Teacher Effort

A few studies focus on teachers' time on task and classroom transactions for students being taught by para- and regular teachers. The NCAER (2008: 2) study records that 85% of head teachers felt that para-teachers had either "good" or "very good" teaching skills, particularly "in preparation of curriculum transaction, developing and effective use of TLM, teaching English and use of blackboard".[12] However, head teachers felt that regular teachers had better skills in communicating with parents, in their commitment to teaching, in diagnosing students with learning difficulties and in using mathematics and science kits. Block Resource Centre (BRC) and Cluster Resource Centre (CRC) coordinators made similar observations. The interviews in the NCAER study revealed that para-teachers rated marginally better than regular teachers on a five-point scale.

The most systematic and detailed study of classroom transaction in primary schools in India is by Sankar (2008a). While the focus of the study is not on para-teachers per se, it does present data broken up by teacher type and thus provides interesting insights into the classroom transactions of para- and regular teachers. The study was carried out in AP, MP and UP and used both classroom observation and learning achievement tests.

Figure 1: Distribution of Teacher Time on Different Types of Tasks in Classrooms



Category I activities are those that stimulate higher order skills, such as active learning, discussion, projects/creative activity and remedial teaching; Category II are traditional activities such as reading aloud, seat work and instruction/demonstration. Category III includes rote learning activity or copying from blackboard or from a book.
Source: Sankar (2008a).

Sankar (2008a) analyses the time spent by regular and para-teachers on different types of classroom activities. Figure 1 shows that in MP and UP, regular teachers spent somewhat more time than para-teachers on activities that involve higher order thinking. Correspondingly, regular teachers spent less time than para-teachers, on average, on rote-learning activities. While it is not known if these differences are statistically significant, they look too small to be significant.

The SchoolTELLS survey collected information on a number of measures which capture the teachers' (a) degree of "effort" (absence rate, non-teaching days, occupation other than teaching); (b) attitude towards effort (whether teacher agrees that frequently absentee teachers should be paid less); and (c) revealed effort, in terms of actual time on teaching and other school tasks. Table 8 presents descriptive statistics on these effort measures. The top panel reports numbers for UP and the bottom panel for Bihar.

Table 8: Teacher 'Effort' and Teacher Salary, by State and Teacher Type

	Absence Rate	Days of Non-teaching Duties since January 2007	Has Another Occupation	Agrees "Absentee Teachers Should Be Paid Less"	% Time in Teaching	% Time in Games	% Time in Office Work	% Time in Mid-day Meal Organising	Salary (Rs Per Month)
UP									
Regular	24.6	8.5	34.0	40.4	75.3	29.8	33.4	31.7	12,017
Para	12.0	2.8	65.0	47.9	83.3	35.2	18.9	35.9	2,991
Private	17.4	1.6	75.3	49.5	89.0	31.2	15.1	3.8	940
Bihar									
Regular	22.9	14.2	48.9	28.9	73.3	30.6	34.1	21.9	11,694
Para (2005)	21.7	12.1	47.9	27.4	82.9	32.8	10.3	19.5	4,076
Para (2006-07)	21.0	–	44.8	20.7	84.3	32.0	8.1	14.3	4,405
Private	13.9	9.0	76.7	33.3	92.7	34.6	10.0	0.0	1,200

The "days of non-teaching duties since January 2007" are not reported for Bihar para-teachers appointed in 2006-07 since many of these newly recruited para-teachers joined in the 2007 calendar year and were thus not present for the full 12 months since January 2007.
Source: Authors' calculations from SchoolTELLS survey data (Kingdon et al 2008).

Table 8 shows that while para-teachers' effort measures are generally noticeably better than regular teachers' in UP, this is not so in Bihar. In UP, para-teachers have half the absence rate of regular teachers and also have very substantially fewer mean days of non-teaching official duties.[13] However, they are far more likely to have an occupation other than teaching, perhaps because their pay in UP is only about 25% of regular teacher pay, as the last column shows. Although we do not report the t-test, all three of these para-regular differences in mean are statistically significant at the 1% level. In terms of attitude towards effort, or rather towards effort-related pay, para-teachers are more likely to agree with the statement that "frequently absentee teachers should be paid less", though here, the difference in means is not statistically significant.

The next three columns look at revealed effort, in terms of time on task. We asked teachers to report "what proportion of a typical school day" they spent in the listed activities. The results show that by self-report, para-teachers spend substantially more time than regular teachers in teaching children and substantially less time than regular teachers in office work. Both these differences are statistically significant. The mean time spent in games and prayer assembly or in organising the mid-day meal does not differ significantly between regular and para-teachers.

In Bihar (Table 8), para-teachers also spend less time in office work than regular teachers but they are similar to regular teachers in other measures of effort. The reason for this difference with UP could be because Bihar para-teachers do not face the accountability pressure faced by para-teachers in UP (and several other states), namely annual or periodic contract renewal, based tacitly on some notion of performance. They have jobs for life.

Student Outcomes

There is some limited evidence to show that employing para-teachers improves child enrolment and attendance. An education report by Amartya Sen's Pratichi Trust (Rana et al 2002) found that in West Bengal, alternative schools taught by para-teachers have higher child attendance rates, lower teacher absenteeism rates and higher parental satisfaction levels with teachers, than regular schools.

Rampal and Bhagat (2003) in their study of school effectiveness in West Bengal also have similar observations regarding alternative schools. However, they caution against interpreting these results as a sign that the quality of these schools is good. They find training of the teachers to be of poor quality and classroom transaction to be based on rote learning and memorisation.

The EDCIL (1999) study is one of the few that assesses learning achievements of students in its small sample of schools. The authors found uniformly poor learning achievement of students in grades three and five in all its small sample of schools. This is despite the fact that children in para-teacher schools are typically more socio-economically disadvantaged, and that para-teacher schools are often located in more remote areas.

Leclercq (2003) found that in MP, achievement levels of children taught by para-teachers and regular teachers were similar. The more recent EDCIL (2008) study also found that being a regular or para-teacher did not matter for learning achievement of students in class five.

Sankar (2008b) is a larger and more systematic World Bank study that attempts to control for pupils' home background as well as for school factors with regression analysis. Using data from 360 schools, 920 teachers and 4,800 students of grade four across three Indian states (AP, MP and UP), it finds that while in the raw data, children taught by para-teachers have slightly lower learning levels than those taught by regular teachers, once home background factors are controlled for, there is no difference between the learning achievement levels of students taught by para and regular teachers. Though the author is rightly reluctant to claim that teacher type (regular versus para-teacher) had a causal impact on learning outcomes of students in general, she concludes that "in UP, students taught by para-teachers scored better compared to those taught by regular teachers" (Sankar 2008b: 22).

Table 9: Child Achievement Scores for Government Primary Schools in UP
(Dependent variable is z-score of achievement)

	Ordinary Least Squares Estimator			School Fixed Effects Estimator		
	(1)	(2)	(3)	(4)	(5)	(6)
Teacher characteristics						
Age	0.0103***	0.0074***	0.0098***	0.0111***	0.0056***	0.0110***
	(6.72)	(6.68)	(6.40)	(5.73)	(3.92)	(5.69)
Male	-0.127***	-0.111***	-0.121***	-0.138***	-0.0915***	-0.138***
	(-6.36)	(-5.68)	(-6.05)	(-4.80)	(-3.44)	(-4.77)
Qualification BA	0.00310	-0.00569	-0.00123	0.0954**	0.0872**	0.0952**
	(0.13)	(-0.24)	(-0.05)	(2.54)	(2.33)	(2.54)
Qualification MA	0.00816	0.00598	0.0196	0.108***	0.0740*	0.116***
	(0.30)	(0.22)	(0.71)	(2.82)	(1.94)	(2.95)
First division	0.0327	-0.00923	0.00495	0.143***	0.0988**	0.131***
	(1.14)	(-0.32)	(0.17)	(3.60)	(2.40)	(3.13)
Para-teacher	0.123***		0.0908**	0.218***		0.208***
	(3.18)		(2.30)	(4.46)		(4.14)
Absence rate		-0.258***	-0.230***		-0.147*	-0.0706
		(-4.54)	(-3.98)		(-1.88)	(-0.88)
N	8185	8185	8185	8185	8185	8185
Number of schools				62	62	62

t-statistics in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. All equations control for an extensive set of child's personal characteristics (age, gender, health) and family background (asset ownership and mother's education), but the full results are not shown for space reasons. "First division" equals 1 if the teacher received a first division mark in the highest board exam taken, 0 otherwise. The teacher's absence rate was the mean of the binary variable "whether teacher is present in school" over 4 unannounced school visits.
Source: SchoolTELLS survey data (Kingdon et al 2008).

The SchoolTELLS survey collected data on about 4,300 children across 160 schools in Bihar and UP over 2007-08 (Kingdon et al 2008). The first three columns of Table 9 show ordinary least squares (OLS) regression of student achievement z-score and the last 3 columns show school fixed effects (FE) regression. OLS results in column 1 show that in UP, students taught by a para-teacher have achievement higher by about 0.12 standard deviations (SD) compared to those taught by a regular teacher. The coefficient is strongly statistically significant. This is a surprising result, since surely para-teachers would have lower levels of motivation than regular teachers since they are paid about one-quarter of the salary of regular teachers!

To see whether their lower absence rates are the reason why they appear to perform better than regular teachers despite lower salary and lower training levels, we included absence rate as a further explanatory variable in the equation in column three. It significantly negatively correlated with student achievement.[14] Its inclusion means that the 0.12 SD advantage of students taught by para-teachers falls to about a 0.09 SD advantage. This suggests that about one-third of the achievement advantage of children taught by para-teachers is due to para-teachers having lower absence rates than regular teachers. Possibly the remainder of the advantage is due to other aspects of effort (not captured by absence rates) that are higher for para-teachers.

When we focus on estimation *within the same school* (i e, after controlling for the school's observed and unobserved characteristics) in the last three columns, the results are qualitatively similar, though the magnitudes differ. For example, the size of the positive "effect" of para-teachers increases from 0.12 SD in column 1 to 0.22 SD in column 4. This is plausible. Since para-teachers are more likely to be posted to the more remote schools in the more deprived communities, the coefficient on the para-teacher variable in the OLS equation is correlated with deprivation and thus is downward biased towards zero because it "picks up" the negative effect (on achievement) of deprivation. In Bihar (results not reported), there was no significant advantage for being taught by a para-teacher. This is consistent with Bihar para-teachers' absence rates and other effort indicators. This may be because of differences in the accountability pressures, i e, Bihar para-teachers so far have permanent jobs, not annually renewable contracts.

Thus all the studies on this issue so far suggest little difference in the learning achievement levels of students taught by para-teachers and regular teachers, or sometimes even a learning advantage for children taught by para-teachers. While learning levels overall are low for children taught by both teacher types, it seems clear that being taught by a para-teacher does not mean a student will necessarily have lower achievement.

Teacher Competence Levels

Inadequate teacher competence may be one reason for low student achievement. The SchoolTELLS survey (Kingdon et al 2008) is the only survey we are aware of, which systematically tested primary school teachers' knowledge of the subject matter they teach. Language and arithmetic tests were especially designed to test teachers' ability to explain and teach these subjects, and their ability to spot the mistakes that children commonly make. Banerji and Kingdon (2009) provide a full analysis of the extensive teacher test but just a few of their results are summarised in Table 10 (p 66). They indicate that regular teachers performed better than para-teachers in language and maths tasks in both Bihar and UP. However, when we control for teacher education, training and experience, i e, compare teachers with similar qualifications and experience (the results are not reported), para-teachers' mean

achievement scores were lower than those of regular teachers only in UP, not in Bihar.

Table 10: Teacher Performance on Teacher Test

"Teacher gave"	Bihar				UP		
	Regular	Para 2005	Para 2006	Private	Regular	Para	Private
Correct meaning of difficult words	42.4	41.0	37.1	50.8	48.9	40.4	43.4
Meaningful summary of a given short story	45.6	54.8	31.5	58.2	41.0	37.1	44.7
No spelling errors in write-up of summary	32.0	29.1	28.2	54.7	48.2	46.7	39.6
Worked out which given division sum is correct	84.2	78.6	76.2	78.1	84.6	73.5	70.1
Correct answer to a simple percentage sum	43.3	24.8	15.4	22.2	27.8	21.7	11.7

Source: Banerji and Kingdon (2009).

Thus while all studies so far have found that learning achievement levels of children taught by regular and para-teachers are not significantly different, the SchoolTELLS data indicate that teacher knowledge and teaching skill are better amongst regular teachers, at least in UP (Kingdon et al 2008).

This suggests that children taught by para-teachers may be disadvantaged vis-a-vis those taught by regular teachers by having teachers who are less knowledgeable or less competent. At the same time, they may be advantaged because their teachers are more likely to be present in school and more engaged in teaching tasks than regular teachers.

4 Conclusions and Policy Pointers

As stated at the start, there are both champions and detractors of para-teacher schemes. Champions have pushed through the appointment of large numbers of para-teachers in many states, emphasising the main arguments in favour of such schemes such as better PTRs, fewer single teacher schools and lower absenteeism among para-teachers. These are confirmed by teacher attendance studies in the previous section. In addition, supporters claim that para-teachers are about twice or thrice as cost-effective as regular teachers given their effectiveness in imparting learning, at a cost to the taxpayer of only one-third to one-half of the regular teachers. This claim is also partially upheld. Supporters also assert that para-teachers have better accountability to supervisory bodies such as VECs or school committees since they are hired locally and on renewable contracts. This last claim has not, however, been systematically tested.

The detractors' worries are that para-teachers have lower teacher training.[15] This worry is borne out by DISE data, which show that para-teachers are significantly less likely to have professional teacher training qualifications than regular teachers. However, the Ministry of Human Resource Development (MHRD) and some states are seeking to overcome this disadvantage through distance learning teacher training courses for para-teachers. A popular criticism of the use of para-teachers is that their lower teacher training leads to poorer quality of teaching. However, the existing evidence does not support this hypothesis. All of the available studies on this issue so far show that the learning achievement levels among children taught by para and regular teachers are similar, though children taught by para-teachers sometimes come from poorer/more remote homes. Some analysts call into question the value, worth and quality of professional pre-service teacher training courses, if after such training, regular teachers are no more effective, on average, than (the usually untrained) para-teachers.[16]

Some detractors of para-teacher schemes allege that para-teachers have lower educational qualifications than regular teachers. This concern is, however, not borne out by the national data. Having lower legal educational qualification *requirements* for para-teachers than for regular teachers has not led to actually lower qualifications among appointed para-teachers.

The similarity of learning outcomes among pupils taught by untrained para-teachers and trained regular teachers draws

attention to three important facts: first, the seemingly poor quality of the existing pre-service teacher training programmes, which needs improving; and second, the important issue of teacher accountability. The discussion around Table 7 suggests that the higher effort of para-teachers in UP is likely due to greater accountability pressures they face compared to regular teachers.

Last, the similarity of learning outcomes for children taught by para- and regular teachers highlights the fact that the oft-heard concerns about the harm done by para-teacher schemes to children are misplaced. Those who voice these concerns appear to conflate the issue of equity (of pay and working conditions for para and regular teachers) professional status, esteem and security, with the issue of the efficacy or quality of education imparted by para-teachers. While concerns for equity, professional status and security remain valid, the concerns about condemning children to poorer quality para-teachers are not borne out by the available evidence.

An important and valid criticism of both regular and para-teacher schemes is that they do not provide a career progression structure with built-in incentives for the professional development of teachers. Pritchett and Pande (2006) and Pritchett and Murgai (2008) argue that the current teacher compensation system in India is unprofessional and anti-teacher as it does not reward performance. Govinda and Josephine (2004) also have useful practical policy recommendations to reform the para-teacher programme, many of which corroborate the suggestions made by Pritchett and Pande (see Kingdon and Sipahimalani-Rao 2009). Their suggestions for a single professional development ladder for para- and regular teachers merit serious consideration because building promotion incentives into teacher contracts can be helpful in raising teacher effort and motivation levels. They would also help do away with the existing "dual" system of regular and para-teachers which creates tension amongst teachers and is detrimental to their morale.

NOTES

1 Basic schools are those with primary and/or upper primary sections, including stand-alone primary and upper primary schools. These figures are calculated from numbers in Govinda and Josephine (2004: 4) and Mehta (2007: 21, 137, 182).

2 These figures are calculated from the enrolment and teacher numbers cited in the first note.

3 Ibid.

4 For an evaluation of contract teacher schemes in Africa, see Bourdon et al (2007).

5 Table 1 in Kingdon and Sipahimalani-Rao (2009) summarises the differing tenure conditions and academic and professional qualification requirements for para-teachers across states.

6 Pre-service training includes certificates such as Basic Teaching Certificate (BTC), Bachelors of Education (BEd), Licentiate in Teaching (LT) or Masters of Education (MEd).

7 Accessed 24 July 2009: http://labourbureau.nic.in/indtab.html

8 SchoolTELLS data do indicate that while in UP, para-teachers lived much closer to the school on average than regular teachers, the difference in distance to school was not as substantial in Bihar because the 84,712 teachers recruited there in 2006-07 were not required to be local to the panchayat where the school was based.

9 School fixed effects regressions consider variations among teachers within a school only, rather than across schools.

10 DPEP was a centrally-sponsored and partly donor-assisted education project for Indian districts that had a female literacy rate below the national average. It ran from about 1994 to 2002 and was the precursor to the Sarva Shiksha Abhiyan.

11 Interview in July 2007 with Vrinda Sarup, then Joint Secretary, Elementary Education, Ministry of Human Resource Development (MHRD).

12 TLM stands for "teaching learning materials". This quote is taken from the Executive Summary (NCAER 2008).

13 To the extent that teachers have some choice about whether they will undertake a given non-teaching duties, the number of days of non-teaching duties reflects teacher effort. Non-teaching duties here do not include in-service training days.

14 If teacher absence rate increases from 1 SD below to 1 SD above the mean teacher absence rate, student achievement falls by 0.06 standard deviations.

15 Interestingly, while this concern is raised about para-teachers within schools, it has not been raised in relation to the use of para-teachers who teach out-of-school children, or about the non-formal education system where teachers were given paltry honoraria.

16 The finding that, given prevailing accountability structures, possession of teacher training certification makes little difference to child learning outcomes in India, is consistent with a large body of international (for example, Hanushek 2003) and Indian literature (Kingdon 1994).

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