Classroom interaction in private schools serving low-income families in Hyderabad, India

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This paper reports on a study of classroom interaction and discourse in privately-funded schools serving low-income families in Hyderabad, India. In common with other developing countries, India has seen a proliferation of such schools and yet little systematic study has been made of them. One hundred and thirty eight lessons were analysed using a computerised systematic observation system; a further 20 lessons were video recorded and analysed using discourse analysis. The findings reveal patterns of classroom interaction and discourse similar to those reported in earlier studies of Indian government primary schools. Teacher-led recitation, rote and repetition dominated the classroom discourse with little attention being paid to securing pupil understanding. The wider implications of the findings for improving the quality of classroom discourse in Indian primary schools are considered together with the need for further research into how the wider social order is influencing pedagogic practices.

Classroom interaction, observation, discourse, primary school, private education, India

INTRODUCTION

As the second most populous country in the world after China, covering a geographical area that is 24 times the size of England, India is a country of many contrasts. While over 70 per cent of the population still live in rural communities, densely populated conurbations such as Bombay, Calcutta and Delhi have grown up, as well as hi-tech cities such as Bangalore and Hyderabad. Within a hi-tech city like Hyderabad, a large, educated middle class has grown. There are, however, large numbers of people living in slum areas in the city of Hyderabad. A major feature of these areas has been the growth of private unaided schools (those run completely with private funds) in which English is the official medium of instruction (private aided schools also exist: these are privately managed but receive a grant from the government). Although private schools for the poor are politically contentious, their growth throughout India, as in other developing countries, has been phenomenal and yet there has been little systematic study of them. Official figures obtained from the District Education Office of Hyderabad show that 61 per cent of students are enrolled in the private unaided sector (67 per cent at upper primary level – the focus of this research). There are also three times as many teachers in the private unaided sector as in

the government sector. Altogether, the official figures show almost 1,000 private schools in the Hyderabad district: 46 per cent of the total number of schools. However, these government figures are likely to overestimate the proportion of children in government schools and underestimate the number of private unaided schools, because they only report those that are recognised. Many private unaided schools appear to be unrecognised at the primary school level, in part because there is no need to be recognised at this level in order for children to take state examinations. Therefore the figure for private unaided primary schools is likely to be considerably higher.

Because of the proliferation of private schools for the poor within India and the lack of research into the pedagogy within these schools compared to the state sectors, the authors decided to investigate the underlying pedagogic practices as revealed in the classroom interaction and discourse. This research forms part of an ongoing project to compare the public and private sector in order to explore the impact of culture on Indian primary school pedagogy.

Throughout the 1990s within the public sector of education, an important aspect of the discussion of the quality of education in developing countries has been a growing recognition of the need to analyse process factors as well as outcome measures (Clarke, 2001; Colclough with Lewis, 1993; Levin and Lockheed, 1993). There is now an understanding that effective teaching will play a crucial role in developing the quality of primary education and attention has turned to pedagogic issues. However, as Stephens (1997) and Heneveld and Craig (1996) argue, within the research literature on teacher effectiveness in developing countries there is a paucity of data into how teachers actually teach in the classroom. They go on to suggest that there is a need for much more field data on which to base decisions and formulate policies so as to bridge the gap between the rhetoric and reality of educational development. Description and interpretation of classroom practices in the developing world are much needed, particularly of the discourse strategies for teaching and learning.

Most of the research into the discourse of classroom interaction has focused on the industrial world. For example, studies of classroom discourse from North America (Cazden, 2001) and the United Kingdom (Edwards and Westgate, 1994) show that whole class teaching across all stages of schooling is dominated by what Tharp and Gallimore (1988) call the 'recitation script'. Drawing on United Kingdom classrooms, Sinclair and Coulthard (1975) first revealed that in its prototypical form teacher-led recitation consists of three moves: an *initiation*, usually in the form of a teacher question, a *response* in which a student attempts to answer the question, and a *follow-up* move, in which the teacher provides some form of feedback (very often in the form of an evaluation) to the pupil's response. This three-part exchange, or IRF, structure is particularly prevalent in directive forms of teaching and often consists of closed teacher questions, brief pupil answers which teachers do not build upon, superficial praise rather than diagnostic feedback, and an emphasis on recalling information rather genuine exploration of a topic. Recitation questioning therefore seeks predictable correct answers and only rarely are teachers' questions used to assist pupils towards more complete or elaborated ideas.

Studies of Indian government primary classrooms also show a pedagogy made up of teacher-dominated discourse, rote learning and memorisation (Alexander, 2000; Clarke, 2003; The Probe Team, 1999; Sarangapani, 2003; Shotton, 1998). For example, Alexander's international study of schools and classrooms from five countries (France, India, Russia, United States, United Kingdom) reveals the comparatively highly ritualised nature of classroom discourse in Indian primary classrooms. He also shows interesting discourse variations in Indian classrooms when compared classrooms in the developed world, particularly in the feedback move of the three-part, IRF structure. Building on these earlier studies of government schools for the poor, the current paper provides a detailed analysis of the discourse practices found in the privately-funded schools

for the poor. It also explores the usefulness of such analysis for investigating and helping to develop pedagogic practices in Indian primary education.

THE STUDY

The data gathered from this classroom interaction study were designed to provide a baseline measure in order to investigate the effectiveness of future interventions, particularly with regard to school-based teacher training programs. Three Hyderabad-based research associates were engaged to conduct the class observations under the guidance of the Newcastle University based team. A purposive sample of 15 private schools was selected to ensure a balance of neighbourhoods and fee ranges: the average annual tuition fee, including monthly, termly and annual fees and donations was 1,637 Rupees (37 USD per year). The average annual income of the fathers is 259 USD to 370 USD; therefore the fees represent seven to ten per cent of the father's annual income (Tooley and Dixon, 2003).

The average size of the private schools was 559 pupils, ranging from 293 to 1,004 pupils. On average, 55.5 per cent of the students were boys, 45.5 per cent were girls. On average there were 19 teachers in each school, ranging from 9 to 30 teachers. Hence, the average student-teacher ratio was 29 to 1: much lower than government run schools where the ratio was 53 to 1 (OECD, 1998). All of the schools were 'all-through' schools, teaching from Nursery up to Standard 10 (up to age 15 or 16). All taught using the English medium – that is, purportedly teaching all subjects in the English language – although one school also had an Urdu medium section, and three schools also had some Telegu medium classes. All of the schools in the sample were secular, although many of them, by virtue of their locality, served predominantly Muslim communities; none of them excluded children on the grounds of their religion or caste.

All of the schools were situated in slum areas of Hyderabad. Fifteen per cent of fathers had no schooling at all, rising to 30 per cent for the mothers. Indeed the great majority of the mothers (63%) either had no schooling, or were educated to grade VII or below. More than half the parents indicated that their income was paid on a daily basis, and although some households had two or three breadwinners (around 20 per cent of those sampled) around 33 per cent received a *family* income that was below the minimum wage.

In total, 138 teachers were observed in the cross section from the 15 schools. Although 69 per cent of the teachers were educated to degree level and above, only 10 per cent had the government teacher training certificate and 8 per cent a Bachelor of Education degree. The average age of these teachers was 28 years old. There were predominantly more female teachers than male teachers: 81 per cent female against 19 per cent male. As Table 1 shows, most of the observations were carried out in mathematics, English, science and social studies lessons taught through the medium of English with the rest being made up of local languages: Hindi, Urdu and Telegu.

Table 1. Breakdown of observations by subject area

Subject area	Number	Per cent
English	24	18
Science	33	24
Mathematics	28	20
Social studies	21	15
Hindi	17	12
Telugu	12	9
Urdu	3	2
Total	138	100

The average lesson was 35 minutes in length and the average class size was 23. The classes had roughly equal numbers of boys (n=12) and girls (n=11). The average age of the pupils observed was 11 years (ranging from 4 to 16 years old).

Computerised observation

Observations were carried out using a computerised observation schedule developed by the research team known as the Classroom Interaction System (Smith and Hardman, 2003). A continuous sampling method was used. The coding scheme uses 'The Observer' software (Noldus Information Technology, 1995) to log the number of different types of discourse moves made by teachers and pupils. This was done using a handheld device about the size of a calculator. This computerised system enabled the researchers to observe the lesson in real-time and was quicker than traditional paper and pencil methods because the data were instantly stored, and therefore available for immediate analysis. Good measures of inter-rater and intra-rater reliability were achieved (correlations of 0.86 and 0.78 respectively): an in-depth discussion of the Classroom Interaction System can be found in Smith and Hardman (2003).

The computerised system logged (for each teaching exchange): the actor, the discourse move and who the receiver was. It therefore primarily focused on the three-part, IRF structure and gathered data on teachers' questions, whether questions were answered (and by whom), and the types of evaluation given in response to answers. It also recorded pupil initiations in the form of questions and statements. The system recorded whether teacher questions were *open* (questions defined in terms of the teacher's reaction to the pupil's answer: only if the teacher will accept more than one answer to the question would it be judged as open) or *closed* (questions calling for a single response or offering facts). Responses were coded according to whether a boy or girl answered or whether there was a choral reply. Teacher feedback to a pupil's answer was coded according to whether the answer was praised, criticised, or accepted. The system also captured two alternative strategies in the feedback move: *probes* (where the teacher stayed with the same child to ask further questions) and *uptake* questions (where the teacher incorporated a pupil's answer into a subsequent question).

Transcript analysis

Video recordings of an opportunity sample of 20 teachers (15 women, 5 men) covering lessons in English, mathematics and science were carried out. Only one of the teachers had gone through a program of formal teacher training and the average age of the teachers was 24. Selections from the video recordings were transcribed and coded using an intensive system of discourse analysis adapted from the work of Sinclair and Coulthard (1975) focusing on teaching exchanges. As with the systematic observation instrument, the discourse analysis framework provided a clear and systematic basis for analysing the classroom discourse in all 20 lessons because, for the majority of the time, whole class interaction centred on the teacher was the main activity. By focusing on the three-part, IRF structure, the findings of the discourse analysis could be compared with the computerised observation data.

FINDINGS

Lesson structure

The most common lesson format was for the whole class to be listening to the teacher – all 138 lessons used this format. The pupils worked through a problem, as a class, in 105 of the lessons (three quarters of all lesson). Pupils worked individually (doing work not directed by the teacher) in only 28 lessons (one in five lessons). Group work only occurred in seven lessons (1 in 20).

The duration of each of the four aforementioned formats was recorded for each lesson. So, for example, a lesson might consist of 40 minutes of the whole class listening, 10 minutes of whole class work, 5 minutes of group work and 5 minutes of individual work. This would translate as 66.7 per cent whole class listening, 16.7 per cent whole class work, and 8.3 per cent for both

group and individual work. The breakdown for a typical lesson (based on the analysis of all 138 lessons) was as follows: 62.9 per cent whole class listening, 33.6 per cent whole class work, 0.1 per cent group work and 3.4 per cent individual work. Therefore the overwhelming majority of lessons did not provide opportunities for collaborative work or self-reliance, and pupils had no real opportunity to talk to each other or to initiate ideas whatever their age or the focus of the lesson. Even when pupils were working from their textbooks or the chalkboard, the expectation of both the teachers and children was that this work was to be carried out by individual pupils in silence.

Classroom discourse

Figure 1 below shows the number of lessons in which certain types of discourse were observed. The maximum height for each bar is 138 (the number of lessons observed). Most teachers used explaining and directing. Closed questions were used by 90 per cent of the teachers and 55 per cent of the sample did not ask any open questions. Similarly, half of the teachers did not use an uptake or probe question at any time during the lesson. Interruptions occurred in 77 per cent of the lessons.
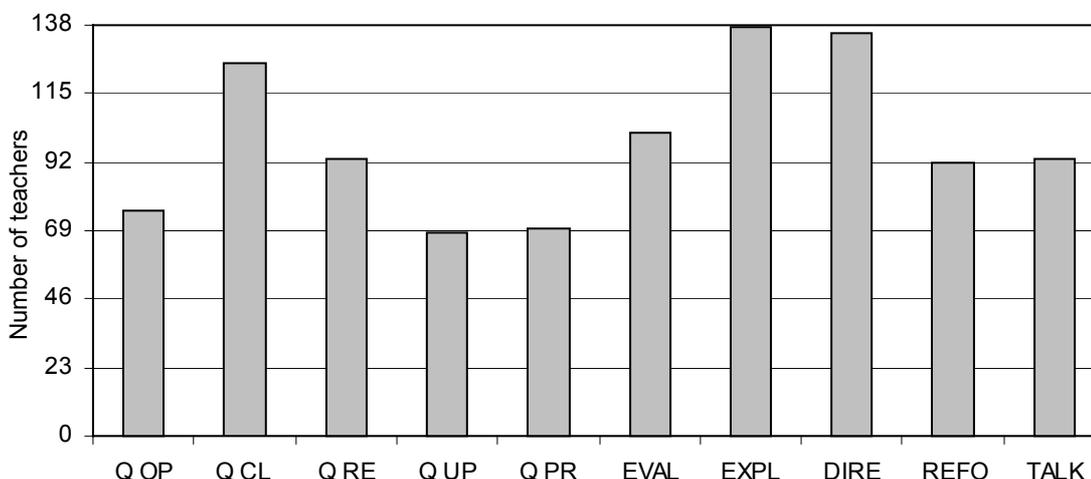
Key: Q OP – Open question; Q CL – Closed question; Q RE – Repeat question; Q UP – Uptake question; Q PR – Probe; EVAL – Evaluation; EXPL – Explain; DIRE – Direction; REFO – Refocus; TALK – General talk.

**Figure 1. Number of lessons in which the different discourse moves were observed**

Figure 2 shows the rate (number per hour) for each of the teacher discourse moves. Clearly the most frequent discourse moves, as found earlier in the types of discourse moves included explaining (46 per hr), teacher direction (29 per hr) and closed questions (25 per hour).

Throughout the observations the focus was upon the teacher, but responses and initiations from pupils during the whole class sections of the lessons were also analysed. When pupils spoke, the most dominant discourse was to answer a question. The moves are listed below:

- Answering a question (31 moves per hour);

- Choral response (7 moves per hour);

- Presentation (19 moves per hour); and

- Spontaneous contribution (7 moves per hour).

Rather than looking at rate per hour (which takes no account of the length of a discourse move), it is also possible to report the *mean duration* for each discourse move (average length in seconds) and the *percentage duration* for each discourse move (each discourse move's total contribution to

the entire whole class section). For example, if explaining took up ten minutes of a 40 minute whole class section the percentage duration of explaining would be 25 per cent. Mean durations and percentage durations for each discourse move are shown in Table 3. The pupil discourse moves are shaded in the table.
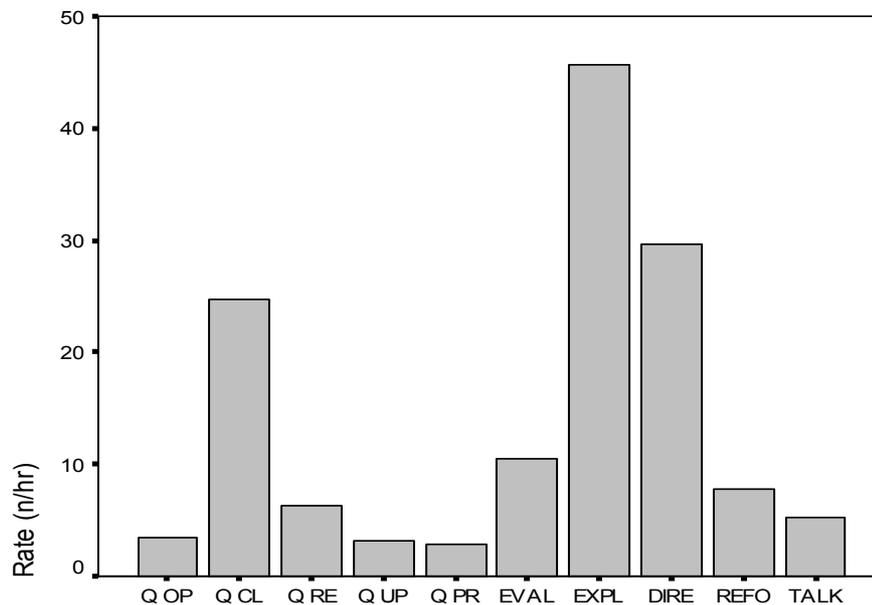
Key: Q OP – Open question; Q CL – Closed question; Q RE – Repeat question; Q UP – Uptake question; Q PR – Probe; EVAL – Evaluation; EXPL – Explain; DIRE – Direction; REFO – Refocus; TALK – General talk.

Figure 2. Rate of teacher discourse moves

Table 3. Mean duration and percentage duration for each discourse move

Discourse move	Mean duration (secs)	Per cent duration
Direct	10	10.0
Explain	26	54.0
Open question	6	0.5
Closed question	5	3.5
Repeat question	6	1.0
Uptake question	5	0.5
Probe (question)	8	1.0
Evaluate	6	2.0
Refocus	15	3.0
General talk	12	2.5
Interruption	20	2.5
Pupil answers	7	7.0
Choral response	12	4.0
Spontaneous contribution	12	2.5
Presents	21	6.0
	Total:	**100.0**

The data in Table 3 show that explaining was the most frequent discourse move followed by teacher direction of the class. Teacher explanation was of the longest duration (26 secs) and took up 54 per cent of the time spent by the teacher interacting with the whole class. Teacher questioning and evaluation of answers took up 8.5 per cent of the time and the mean duration of the moves was very similar. Most questions (averaging 25 per hour) were closed, requiring recall and the response of a single word. Probing and uptake questions were very rare. Pupils did not often volunteer answers but were called on by the teacher. The average length of a pupil answer was seven seconds. Choral responses took longer – 12 seconds. Pupil presentation, when pupils were called to the front of the classroom, singly, in pairs or as a group, to work at the blackboard

or recite, took up 6 per cent of the time and the mean duration was 21 seconds. Altogether, pupil responses (individual, choral and presentations) took up 17 per cent of the time spent interacting with the teacher.

By adding up the teacher discourse moves (top ten in the table), it is clear that the teacher dominated the whole class section for 78 per cent of the time. The 19.5 per cent pupil contribution was mainly made up of answering questions: individually, as a choral response or in the form of a presentation. Interruptions to lessons accounted for the remaining percentage (2.5%).

When a teacher evaluated an answer, just over half of all evaluations (53%) were simple affirmations ('yes', 'no', 'ok'). Nearly 23 per cent of evaluations were in the form of a criticism, 16 per cent were probes for more information and 8.5 per cent were in the form of praise. However, as the discussion of transcript analysis in the next section shows, it was not uncommon for teachers to use the two-move exchange structure (teacher question and pupil answer) thereby providing no feedback to a pupil answer. Nor was it uncommon for them to ask and answer their own questions.

Discourse analysis

As with the systematic observation, the discourse analysis of the teaching exchanges suggests that all 20 lessons were conducted through teacher-led recitation, where teacher explanation and interrogations of the pupils' knowledge and understanding was the most common form of classroom interaction. Using a descriptive apparatus adapted from the work of Sinclair and Coulthard (1975), the researchers analysed the different forms of teaching exchanges that occurred in the transcripts using the IRF structure.

The following extract (see Table 4), taken from a science lesson exploring the physiology of the human mouth with a class of 13 to 14 year old pupils, is typical of the discourse style used by all 20 teachers across the three subject areas.

The extract reveals the extent to which the classroom discourse is made up of teacher explanation (Turns 37, 41, 44) and question and answer sequences. The rapid pace of the teacher's questioning and tight control over the discourse through the predictable IRF or IR classroom exchange structure is also evident. Questions are often direct with little cued elicitation: where pupils are given a clue as to how to answer a question. Individual pupils do not usually volunteer for turns but are called on by the teacher (Turns 7, 10, 15, 22, 27, 30, 34) where the pupil stands up to answer. Choral responses to questions are common (Turns 3, 6, 13, 18, 21, 26, 33, 39) and are often used to reinforce information given by the teacher or elicited from the pupils. Pupils often know from the intonation of the first move of an IRF exchange whether it requires an individual answer or a choral response. When the two-move discourse structure is used, it precludes feedback on answers and therefore any systematic building upon them. The structure of the interaction appears highly ritualised and the repertoire is clearly understood by the pupils: communicative rights and responsibilities follow a set pattern that obviates the need for frequent reminders about classroom routines from the teacher. The lack of an explicit feedback move prohibits any systematic building on pupils' answers that are often limited to three words or fewer for over 90 per cent of the time.

Overall findings

The findings of the systematic observation and discourse analysis reveal that the prevailing pedagogy in private schools for the poor is dominated by teacher-led recitation. All the lessons observed used transmission models of teaching in which the teacher often used a textbook or chalkboard to transmit recipe knowledge for rote learning (therefore imparting information and testing recall). Little attention was given to securing understanding, and ritual knowledge was an

explicit focus of the learning tasks which teachers presented. Cognitive engagement therefore appeared limited and the tasks were essentially mechanical ones.

Table 4. Extract from a science lesson with pupils aged 13 to 14

Number	Actor	Exchange
1	T	so today we're going to study about types of teeth
		first we're going to look at types of teeth then
		we'll come to types of salivary glands
2	T	so can you tell me how many types of teeth
3	P	(chorus) four types of teeth
4	T	four types of teeth are there
5	T	can you name them
6	P	(chorus) yes teacher
7	T	first type group
8	P	incisors
9	T	yes very good incisors
10	T	Faisal your turn
11	P	canines teacher
12	T	what
13	P	(chorus) canines teacher
14	T	canines (writes on chalk board)
15	T	then we have
16	P	premolars
17	T	what
18	P	(chorus) premolars
19	T	sit down
20	T	and the small ones
21	P	(chorus) molars
22	T	what
23	P	molars
24	T	ok sit down (writes on the board)
25	T	so where do molars exist the mouth
26	P	(chorus) four and four
27	T	ok you stand up Abdul
		where do incisors exist in the mouth on which side
28	P	at the front (demonstrates)
29	T	yes the front teeth
		the four teeth are called incisors
30	T	so how many incisors have we got here
31	P	eight
32	T	eight on the upper side only
33	P	(chorus) four on the upper and four on the lower
34	T	one person only answer
35	P	four teeth on the upper and four teeth
36	T	ok sit down
37	T	four and four teeth on the upper side and four teeth on the lower side
38	T	so four and four
		how many teeth
39	P	(chorus) eight
40	T	ok so there are eight (writes on board)
41	T	that means the front teeth on the upper jaw and the lower jaw are the same the teeth which are present on the upper side are also present on the same on the lower jaw also so you can see that the arrangement of the teeth on the upper jaw and the lower jaw are the same
42	T	understood
43	P	(chorus) yes teacher
44	T	the incisors front teeth are the incisors and the four are present on the upper jaw and four are present on the lower jaw the function of the incisors is that

Because of the dominance of whole class teaching, tasks were usually undifferentiated in respect of ability and the teacher monitored mostly from the front. Pupils spent a great deal of time, over 45 per cent of the lesson, listening to the teacher explaining. The average length of time spent

listening to the teacher was just over 16 minutes. Teachers would often ask a closed question requiring recall and the response of a single word. Such questioning and pupils answering took up nearly 20 per cent of the lesson time. Typically, the questioning exchange structure entailed a question delivered in a rising tone and volume, its last word drawn out, and a loudly chanted choral response.

Teacher feedback on responses was rare even where individual pupils were concerned, offering few opportunities for ideas to be developed or examined from other angles. In the case of an individual answering, pupils did not bid to answers but were nominated by the teacher. Teachers would also ask questions and provide an answer, thereby further closing down opportunities for more exploratory forms of questioning. Overall, as in Alexander's (2000) study of Indian state primary classrooms, the interactive core of the lessons was therefore highly ritualised and rigid.

Lesson lengths were regular (on average 35 minutes) and the structure was predictable. Introductions and conclusions were instructional but always very brief. Central sections were usually episodic, combining direct instruction with short periods of reading or writing and recapitulation. The quick-fire succession of tasks were as likely to stand alone as to be related to each other. The lessons appeared strongly reiterative, going over previously taught material, rather than developmental in nature to ensure progression in learning. Most of the learning tasks put a strong emphasis on factual, propositional knowledge (knowing that) rather than procedural knowledge (knowing how).

In the classrooms pupils were seated in rows regardless of the subject being taught, with all desks facing the chalkboard, and many were small resulting in cramped conditions. Such poor physical conditions clearly hampered the quality of the classroom interaction. Many of the classrooms also had a distinctive 'action zone' where a group of actively participating pupils were seated. The teacher talked to them more and asked them questions most of the time. Those on the fringes of the room hardly participated in the classroom learning and this was exacerbated in larger classes. It was also apparent from the video evidence that the quality of the classroom interaction was hampered by the lack of teaching resources and textbooks in many of the classrooms. Better quality teaching aids and textbooks would promote more active forms of learning and encourage different forms of differentiation beyond the 'one task, different outcomes' formula to cater for differences in ability and help to close the attainment gap evident in many classrooms. There was also very little pupil-pupil discussion or collaboration, except when children voluntarily helped each other. Breaks in this pattern occurred when children were called to the front of the classroom, singly, in pairs or as a group, to work at the chalkboard or recite. Pupil presentation took up nearly 6 per cent of the lesson time. Teachers also moved relatively little, remaining at the front of the room for most of each lesson and occasionally venturing between rows to monitor written work.

Strict discipline in the classrooms meant that teachers were not spending time on control and command and there seemed to be an unspoken respect for the teacher. Kumar (1991) traces the tradition of strict discipline in Indian primary schools back to British colonial days. However, the passivity and self-discipline of the pupils is both a strength and a challenge to the Indian education system in trying to get the pupils to take some responsibility for their own learning, and to think and work independently. A significant proportion of pupils appeared disengaged because they simply did not understand, although they remained outwardly compliant. Most children, including those showing little understanding, observed the outward forms of the required collective behaviour: chanting answers back to the teacher, holding their pens poised above their exercise books, gazing at the chalkboard or the textbook if available.

DISCUSSION AND CONCLUSIONS

In conclusion, the findings of the computerised systematic observation and discourse analysis reveal that teaching in Indian private schools for the poor is dominated by highly ritualised forms of teaching. They therefore mirror discourse practices found in government run primary schools (Alexander, 2000, Clarke, 2003, Sarangapani, 2003). Clearly these findings have implications for the linguistic and cognitive development of Indian primary school pupils. Such an emphasis on directive forms of teaching in Indian primary classrooms goes against the social constructivist theory of learning that underpins western notions of a dialogic pedagogy (for example, Mercer, 2000; Wells 1999). Research into the constructivist function of dialogue and learning suggests that classroom discourse is not effective unless pupils play an active part in their learning. This view of learning suggests that our most important learning does not take place through the addition of discrete facts to an existing store of knowledge, but that we relate new information, new experiences, new ways of understanding to our existing understanding of the matter in hand. One of the most important ways of working on this understanding is through talk, particularly where pupils are given the opportunity to assume greater control over their own learning by initiating ideas and responses which consequently promote articulate thinking. Such a theory of learning therefore questions the value of the linguistic and cognitive demands made upon Indian pupils within the traditional teacher-led recitation format found in the public and private sector of schools serving the poor. As these findings show, pupils are mainly expected to be passive and to recall, when asked, what they have learned and to report other people's thinking.

In looking for explanations for the highly ritualised teacher-pupil exchanges found in the private schools for the poor beyond the physical and resource constraints, a number of theories arise. The fact that the majority of teachers lacked any formal training may have played a major role. However, Clarke (2003) found that teacher training had had little impact on the pedagogic practices of teachers working in state schools. Although teacher training programs advocated a more active pupil-centred pedagogy in place of the traditional pedagogy that upholds learning and memorisation, she found it was rarely practised or little understood by teachers due to a culturally defined model of pedagogy that had been learned as pupils and students. Through a process of socialisation, Clarke found teacher thinking and action were being shaped by powerful cultural practices which are said to originate out of the Indian respect for tradition and authority, leading to the institutionalised phenomenon of recitation routines. Therefore, once in the classroom teachers would teach as they themselves were taught, both at school and in the colleges, thereby perpetuating culturally transmitted and deeply internalised cultural influences. Alexander (2000) also discusses the impact of Indian educational history on the teaching and learning process, particularly the central role of the religious text and the model of teaching and learning it provides: oral transmission through constant teacher-led recitation and pupil repetition so that text is committed to memory. Teachers may therefore find it difficult to imagine that knowledge, information and skills could possibly be transmitted in any other way than through teacher-led recitation.

The fact that the teaching and learning in the classrooms observed mainly took place in a second language environment may also have added to the ritualised exchanges. Drawing on her study of African teachers, Arthur (1996) argues that a major cause of the ritualised teaching practices as found in the current study is the requirement to use English as the medium of instruction. Such practices, she argues, have been derived from conventions imposed during colonial rule, leading to the collusion of teachers and pupils in mutual face-saving over the adequacy of their classroom interaction for the achievement of teaching and learning. This is often achieved by code switching into the mother tongue of the children so that it functions as the language of complicity. In other words, rather than having its origins in traditional cultural patterns of interaction, the recitation routines result from the constraint on learning imposed by the requirement to use a foreign

language as the medium of instruction. Teachers and pupils are therefore mutually interdependent in that all need to keep up the appearance of effective activity in the classroom and fulfilment of their respective roles leading to highly ritualised exchanges.

Clearly the findings of the study have major implications for those charged with the responsibility of improving the quality of teaching and learning in private schools for the poor. The findings of this and previous studies of government primary schools suggest that the classroom practices of Indian primary school teachers reflect limited understanding of how best to support children's learning. It seems that teachers' perceptions of their role in both the state and private sector are based on their own experience in school and college and the cultural relationship between adult and child. In order to change these often-entrenched teacher beliefs and classroom practices, more effective teacher education programs are needed which address the realities of the classroom context and the needs of the Indian child (Clarke, 2003; Sarangapani, 2003).

In the case of the untrained teachers in the current study, such programs would have to be delivered through school-based training. The programs would need to start by helping teachers to explore their own beliefs and by getting them to reflect on their classroom practices. Joyce and Showers (1995) argue that teachers need extended opportunities to think through new ideas and to try out new practices, ideally in a context where they get feedback from a more expert practitioner and continue to refine their practice in collaboration with colleagues. Coaching and talk-analysis feedback may be useful tools for professional development whereby sympathetic discussion by groups of teachers of observation data derived from their own classrooms could be an effective starting point for critical reflection. Such an approach could provide supportive interactions with peers through modelling and feedback in order to change traditional patterns of whole class interaction necessary for responsive teaching. Clarke (2003) argues that such an approach would also be useful for teachers working in government primary schools. Such a model of in-service would build on existing systems and structures, and support teachers' reflection on their own practice.

More research needs to be carried out to evaluate the effectiveness of such approaches and to study the powerful cultural and linguistic influences shaping traditional classroom practices in Indian primary classrooms across both the public and private sectors. The research methods adopted in the current study could help in the search to see if there are constants in classroom pedagogy which override cultural specifics. These findings also suggest a need for further research into ways of effectively supporting Indian primary school teachers in their professional development in order to promote more reciprocal forms of teaching to increase the opportunities for extended interactions with pupils. More research is also needed to provide conclusive evidence that such reciprocal forms of teaching are more effective than traditional approaches in terms of producing significant gains in learning.

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