

Draft: for discussion.

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Male and Female Teacher Instructional Practices

The section below summarizes the findings concerning gender and instructional practices in classrooms of a sample of Pakistani primary schools. It describes the differences in instructional practice between male and female teachers.

The paper asks the following questions:

- o Which characteristics distinguish the teaching styles of male and female teachers in fourth and fifth grade classrooms?
- o To what extent do these styles correspond with styles found to be effective in another part of this study?
- o Are there weaknesses or strengths in teaching practices that need to be compensated for in the training courses of each sex?

It is widely believed in Pakistan that female teachers are more effective at the primary level than male teachers. The general attempt to separate the sexes during their schooling makes it possible that separate pedagogies have developed, especially since the models used by teachers in the classroom are often based on their own experiences as students. This paper attempts to identify these differences, if they exist, and compare them with the practices that have been associated with higher levels of achievement in other sections of this study.

The unit of analysis for this section is an observation of a classroom lesson in any one of three subject matters: Urdu, math or science. Observations were conducted in fourth and fifth grade classrooms on the second and third day of visits to the sample schools. Altogether there were 264 valid observations.

Researchers administered math, science and Urdu tests to students to assess the performance levels of the teachers.

Table 1 shows the distribution of lesson observations by subject and the average achievement score in each sub-sample. A small number of observations were made in schools where Sindi was the medium of instruction; the achievement scores reflected in the table are for Urdu, which the children study as a second language. Findings are not reported for the Sindi medium teachers because their numbers are too small to draw meaningful conclusions.

Table 1: Sample and Achievement Scores

CATEGORY	SAMPLES							
	URDU		MATH		SCIENCE		URDU/SINDI	
	M	F	M	F	M	F	M	F
No. of cases	41	55	49	57	28	23	10	1
Achievement scores	36	40	23	19	28	33	20*	7*
Max. sample ach. score	68	85	44	50	50	58	35	7
Min. sample ach. score	7	23	4	6	8	7		

*Note: The score represented here is for Urdu achievement; in the schools having these classes the medium of instruction is Sindi and Urdu is taught as a separate language.

The girls achieve somewhat higher on Urdu and science exams and somewhat less well on math and they show higher maximum scores in each subject. Overall the scores were low in most classes, however, and to speak of "effective" teachers, male or female, is only possible when implying a comparative position.

An important factor associated with effectiveness which emerged from the classroom observations is the incidence of single and multi-grade classes. Effective performance in all subjects was much more likely to occur in single grade classrooms. Table 2 shows the share of single and multigrade classes taught by male and female teachers. In math and Urdu, the incidence of single grade classes is about the same but in science female teachers are much more likely to teach in a single grade class.

All other conditions being equal, each grade and each individual child in multi-grade classes receives less instructional time than in classes where a teacher can concentrate on a single grade level. In a richer schooling environment, supplementary instructional materials, designed for such a situation, might compensate for the lack of teacher attention. In Pakistan, however, textbooks carry little explanation on how to solve a mathematical problem or how to understand the meaning of terms, and therefore instruction becomes highly dependent on teachers to interpret texts. When the teacher is unable to devote as much time to whole group, or individual instruction, then it is likely that the learning suffers.

Table 2: The Incidence of Single and Multigrade Classes

CATEGORY	SAMPLES							
	URDU		MATH		SCIENCE		URDU/SINDI	
	M	F	M	F	M	F	M	F
Single grade classes (mean) *	73	74	68	70	60	91	22	100
Multigrade classes (mean) *	27	26	32	30	40	9	78	0

* Based on 260 valid observations.

Findings below about instructional practices are aggregated under the following general headingsⁱ:

- o review
- o preliminary statements
- o presentation
- o guided practice
- o independent practice
- o homework
- o teacher/student interaction

1. Review

Two kinds of activity may precede the main activities of the lesson: review of previous content material, and preliminaries which focus the attention of students on what is to come. Researchers were asked to look for both during the lesson.

Male and female teachers had about the same likelihood of using review in Urdu and math, while female teachers were more likely to use review in science. Of those teachers using review, males were more likely to use the a short review in math and science while females used a short review in Urdu. The pattern reversed itself in the incidence of full period review.

Female teachers were more likely to correct homework as a review in Urdu and math, or a previous lesson in math, while male teachers were more likely to review a previous lesson in Urdu and previous work in math and science. Thus there is no clear picture that emerges about the use of review by male and female teachers.

If the differences between the more effective and less effective samples reported in previous reports can be considered significant, review appears to be more important in math and science--again a mixed result for the male and female teachers. The importance of review in these subjects may be because new material in these subjects is more tightly bound to previously acquired concepts. In both, a review of the previous lesson is roughly equivalent in most cases to studying the prerequisites for the lesson to come. Urdu, on the other hand, is an incremental process that builds up over time and any body of content is not so likely to depend on a limited set of concepts. The nature of the achievement tests which require general abilities in Urdu and specific content knowledge in science probably contributes to this effect.

Table 3: Use of Review in Instruction

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Use of review*	42	38	44	39	48	70

Length of review**
short review bef.

lesson	47	67	57	45	71	43
old material dur.						
entire less.	47	33	38	55	14	43
other	6	0	5	0	14	14
Kind of review						
Homework	6	18	5	18	8	0
Prev.Lesson	76	64	67	82	57	60
Prev.Work	35	36	52	23	50	27

*Entire sample **Portion of the sample using review

Note:Columns may add up to more than 100 because of multiple answers.

2.Preliminaries.

Preliminaries, or in other terms, "advance organizers," can help focus students' attention on what will be learned during the lesson. Preliminaries can vary from simple indications of a location in the text where a lesson can be found to a set of specific objectives which the lesson is intended to accomplish.

The researchers observed whether teachers preceded their presentation of the lesson with any kind of preliminary statements. The large majority in both samples did. Table 4 summarizes the observations concerning preliminaries.

The two samples again showed a mixed pattern. While they showed about the same use of preliminaries in Urdu, males showed greater likelihood of using such preliminaries in math and females greater likelihood in science. If it is assumed that a preliminary which simply asks the children to turn to a certain page or lesson in the book has little value in terms of learning, and that preliminaries which focus attention on the topic or, better yet, the objectives of the lesson are more effective, then generally speaking the female teachers were much more likely to use the preferred patterns.

Table 4: Use of Preliminaries in Instruction

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Use of prelimin.*	93	89	86	72	78	96
Kind of prelim.**						
Turn to text	89	89	62	71	87	73
Topic of less.	76	90	64	71	91	86
Objectives	29	84	26	51	43	59

*Entire sample **Portion of the sample using preliminaries.

Note:Columns add up to more than 100 because of multiple answers.

3.Presentation.

The large majority of teachers in both samples introduce materials to the class in what can be recognized as a formal presentation. In all subjects, male teachers showed consistently greater use of presentation than female teachers.

Presentation can be of several kinds. Teachers may present the material in small steps, giving children practice after each step; they may present the material as a whole in continuous lecture fashion; or they may begin directly with practice of the materials, interspersing the practice with periods of explanation as seems necessary. The presentation may contain definitions of concepts, and specific examples of the subject matter. Teachers may use the blackboard to present these materials or use prepared visual aids such as charts or maps.

Table 5: Presentation of Subject Matter in Instruction

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Use of present.*	83	71	76	70	93	87
Kind of present.**						
Small steps	24	36	38	45	8	40
Lecture	68	38	51	45	81	40
Direct prac.	26	46	27	35	42	35
Definitions	65	33	30	45	69	55
Examples	38	33	49	63	50	55
Blackboard	38	41	62	73	27	50
Visual:charts	6	0	3	0	8	10

*Entire sample **Portion of the sample using presentation

Note: Samples add up to more than 100 because of multiple answers.

Male and female modes of presentation differ dramatically and consistently. Female teachers are more likely to present material in all subjects in small steps with practice after each step. (Research in other country settings has shown this to be an especially effective teaching device for the kinds of content taught in Pakistani schools). They are also more likely than male teachers to present new materials directly while they help children practice without a formal period of instruction. Male teachers, on the other hand, are consistently more likely to present new materials in lecture form.

The techniques the teachers use do not fall into as clear a pattern. Males use more definitions in Urdu and science, while female teachers are more likely than male teachers to use examples in math, and blackboard presentations in all subjects.

Table 6 shows the extent to which the observers felt the teachers were clear in their presentations. In most instances, the female teachers showed greater clarity in presentation: their explanations were less often confusing, their explanations and instructions were usually clearer, and the words they used were more likely to be at the right difficulty level for the children. Only in the language used for

instruction were the two samples the same in the extent to which children understood.

Table 6: Clarity in Presentation

CATEGORY	URDU		SAMPLES			
			MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Some children confused by explan.	41	28	35	10	58	20
Most explan. and instr. clear	68	67	73	83	50	65
Words are correct lev. of difficulty	38	67	49	63	42	50
Lang. understood by children	94	97	97	93	88	90

Note: Columns add up to more than 100 because of multiple answers.

Table 7 reports the assessments of observers about pacing in the presentation of material. The pacing was consistently more likely to seem appropriate in all subjects for the female teachers. In all subjects, the pacing was more likely to seem too slow for the male teachers, and in science with some it was too fast.

Table 7: Pacing in Presentation as Judged by Observers

CATEGORY	URDU		SAMPLES			
			MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Pacing seems:						
about right	59	72	65	68	42	65
too slow	26	15	32	20	23	20
too fast	15	13	3	10	27	15
other	0	6	0	2	8	0
Number of pages covered in a lesson						

From observing student reactions to the teachers' presentations, the observers were asked to judge pacing in relation to the level of student ability. Table 8 summarizes their assessments.

Overall pacing was fairly similar for both samples with the noteworthy exceptions that female teachers were more likely to pace the lesson to the slowest in science and in all subjects, male teachers were more likely to pace the presentation to the smartest students.

Table 8: Pacing in Relation to Student Ability in Presentation

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Pacing level*						
for slowest	56	52	61	59	29	61
for smartest	24	19	30	26	54	22
for middle	20	29	9	15	17	17
Not possible to know	12	21	11	17	8	13

*For classes where it was possible to assess children

Table 9 reports the appropriateness of the presentation as far as understanding is concerned. The majority of teachers in both samples presents materials at a level that the observers feel is appropriate for understanding, but female teachers are consistently more likely to present materials in this manner. This is also true as far as the level of the subject matter is concerned, as well as the clarity of the teachers' explanations. Where male teachers have the most problem is in their explanations, which are sometimes difficult for the children to understand.

Table 9: Appropriateness of Presentation for Understanding

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Present. appropri.	71	85	89	95	69	80
Subject level*						
about right	85	85	76	83	77	95
too easy	9	8	19	10	15	5
too diff.	6	8	5	7	8	0
Textbook level*						
about right	85	87	73	83	81	80
too easy	9	8	16	12	12	15
too difficult	6	5	8	5	8	5
no text used	0	0	3	0	0	0
Teacher explanation*						
clear	59	64	59	71	46	70
sometimes dif.	26	18	35	24	19	15
often dif.	15	18	5	5	35	15

*Of those using presentation.

4.Guided Practice.

Guided practice was defined for the researchers/observers as the initial teacher-supervised efforts of the students to practice new materials. Guided practice usually involves a fairly rapid interaction between teachers and students as tasks are assigned, students accomplish them in some way that is relatively visible for the teacher, the teacher reacts, and the student begins practice with another similar task. Ideally in guided practice there should be active practice by the child and some sort of feedback on how well the child is doing. In some classes that were observed, however, teachers themselves "practiced" in front of the class without giving children a chance to practice, or feedback was directed in a general way to the whole class with little opportunity for children to know directly from the teacher how they were doing individually.

Guided practice and independent practice (reported below) are difficult to distinguish in some classes. Some teachers conduct them as if they are different degrees of what is essentially the same activity, the only difference being the closer supervision and the more active group involvement of the students in guided practice. Some teachers, of course, use what can be distinguished as one practice and not the other.

There are various ways that guided practice was conducted in the classrooms of the sample. Some teachers give one task after another without providing much guidance or feedback individually to students. In this case the teacher does not know how well the student is doing. A teacher may give a series of tasks and then provide feedback at the end when all the tasks are completed. The teacher can give one task at a time and provide feedback following the completion of each task. Or the teacher can demonstrate or explain and expect children to follow along in the task, without giving them an opportunity individually to know how well they are doing.

Table 10 shows the incidence of guided practice in the sample. The majority of teachers in almost every sample use what observers felt was guided practice. In Urdu and science, female teachers overwhelmingly were more likely to use guided practice than male teachers, and in math both groups were about the same in their use of this kind of practice.

The kind of guided practice used by male and female teachers varied by subject matter. The noteworthy differences include in Urdu a greater use of direct practice without much explanation by female teachers, and more feedback after every task by male teachers. In math the two samples reversed the Urdu pattern, and in science the female teachers offered more feedback after each task.

Table 10: Use of Guided Practice in Instruction

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
Use of guided prac.*	59	86	88	86	46	78
Kind of pract.**						
Prac.w.no explan.	29	46	51	35	31	22
Child finish sev. tasks bef.fdb	8	20	16	15	23	17

Fdbk.after ea.task	50	33	26	40	38	61
Expl. and no fdbk.	4	2	7	11	8	0
Other	8	0	0	0	0	0

*Entire sample **Portion of the sample using guided practice

Table 11 shows the systems teachers use for calling on students and the amount of coverage that occurs by the end of the subject period.

The most popular system for calling on children is at random. Male teachers use this system more than female teachers in Urdu, and call more often on brightest students in science. Female teachers are more likely to call on students at random or use a mix of techniques in science.

In the majority of cases in all samples, more than half of the students are given an opportunity to practice the new materials during guided practice. In Urdu, however, male teachers give more practice while in science female teachers give more practice and male teachers considerably less practice.

Table 11: Coverage in Guided Practice

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
System for calling on students*						
brightest	0	0	9	2	38	0
slowest	4	2	2	4	0	0
volunteers	13	20	12	19	16	22
nonvolunteers	0	7	7	2	0	0
random	57	35	33	31	23	33
order	26	24	33	31	23	22
other	0	2	2	6	0	0
mix of above	0	11	1	4	0	22
Coverage of guided prac.*						
Every ch.pract.	75	59	65	66	31	41
More than half ch.prac.	8	28	30	32	38	41
Less than half ch.prac.	8	13	5	2	31	18
Other	8	0	0	0	0	0

*Portion of sample using guided practice.

Table 12 shows the sources and kinds of tasks used in guided practice. The vast majority of teachers in both samples use some kind of assigned task in guided practice. This tendency is even stronger among the female teachers in Urdu and science. Most in both samples also use some or all tasks which are based on materials from the textbooks.

The kinds of tasks used by teachers are mainly constructed tasks where the children performs an

operation such as copying, writing, repeating, memorizing, giving examples, etc. Only one, watching demonstrations, is passive, and probably only one, showing understanding, requires higher order thinking skills.

In Urdu instruction, males are more likely to use repetition, a call for meanings, and watching demonstrations of the work, while females are more likely to ask for tasks that demonstrate understanding, identification of items, writing practice, correction, and copying. In math, there are fewer differences perhaps because teachers are more in agreement about how this subject should be taught. The noteworthy differences are that female teachers again use tasks which reveal understanding and require identification. In science male teachers ask for summaries, repetition, reading, copying, and watching demonstrations, while females require choral repetition, understanding, meanings, basic facts, and writing.

Table 12: Use of Tasks in Guided Practice

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Use of tasks	83	98	98	96	85	100
Source of tasks						
teach. created	13	11	14	8	0	6
textbook	92	98	91	98	100	94
Kind of tasks						
explan.	46	46	53	46	54	56
examples	33	26	26	29	46	39
summaries	13	15	0	2	38	17
choral repet.	38	22	30	21	17	33
indiv. repet.	72	54	37	33	62	44
reading	67	72	16	15	62	50
understanding	50	61	21	44	38	67
meanings	54	43	5	19	23	33
learn names	8	17	2	4	0	0
basic facts	21	15	37	48	46	67
identify items	13	28	26	27	31	22
writing	33	63	44	40	23	33
correct	13	26	42	46	31	33
copy	29	43	41	48	38	22
watch demon.	42	17	44	42	54	39
How tasks imple.						
Teach.directs/stu.						
responds	75	65	93	58	62	65
Student questions	8	9	5	13	31	18
Both	13	26	2	27	8	18
Other	4	0	0	2	0	0

Note: Percentages may add up to more than 100 because of multiple answers.

Most teachers control the activities of guided practice closely by assigning a series of tasks or problems to students and expecting the students to respond only when specifically replying to questions. In some classes, however, teacher feedback and explanation is initiated by student requests for information. In Urdu and math, male teachers are much more likely to use a directive approach, while in science they are more likely to allow student initiated questions. Female teachers are consistently more likely to use a mix of methods--both directive of and responsive to student initiated questions--in all subjects than male teachers.

Table 13 shows the number of tasks assigned during guided practice.

Table 13: Number of Tasks in Guided Practice

CATEGORY	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Number of tasks						
1-3	38	76	23	56	69	82
4-6	42	13	53	31	23	12
7-9	17	4	14	6	0	0
10-12	0	4	9	4	0	0
13 or more	4	0	0	0	0	6
other	0	2	0	2	1	0
Number of pages covered	2.2?	1.9?	1.1	1.4?	2.4?	2.3?

Female teachers are consistently and to much greater degree likely to assign only one to three tasks in guided practice, while male teachers are consistently likely to assign more tasks, up to possibly nine, in math and Urdu.

Table 14 shows the kinds of responses expected in guided practice.

Some of these questions were designed to see which of Bloom's levels of learning were expected from children in guided practice. In Urdu, males are more likely to ask for process responses, while females are more likely to ask for specific answers where only one response is correct, repetition and copying. In math, males again ask for process, and also application, while females are more likely to ask for copying responses. In science, males ask for copying while females ask for specific responses, memorized answers, and repetition. Overall female teachers tend to ask for tasks and responses that are somewhat more rote than those asked for by the men--tasks that require a great deal of tedious repetition by the children. Given the nature of the kinds of tests children take, it is possible that this approach helps prepare them with the kinds of answers that are required to do well. It has also been suggested that girl students are more tractable and willing to please, and therefore accept these tasks more easily than boys.

Table 14: Responses Expected in Guided Practice

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Type of response						
specific ans.	42	54	81	75	62	78
process ans.	33	20	51	33	31	28
evaluation	4	11	7	10	23	17
applica. ans.	4	11	37	27	8	6
synthesis	13	11	0	8	8	6
analysis ans.	4	11	11	4	15	11
memorized ans.	21	17	9	6	15	50
recitation	42	46	11	13	31	22
repetition	33	48	26	29	46	67
copying	21	43	14	38	38	22

Note: Percents may be more than 100 because of multiple answers.

Table 15 shows how students are involved in guided practice. In Urdu, the samples are fairly similar in the way they involve the students: the only noteworthy exceptions are that males are more likely to ask children to lead the class in responses and female teachers are more likely to rely heavily on seatwork tasks. In math, males are more likely involve children in choral and individual responses, while females do not use ways of involving children that are a noteworthy difference from what men do. In science, again males are more likely to ask children to lead the class, while female teachers are more likely to use a variety of ways to involve children including blackboard work, choral repetition, and instructing the class. The teacher may use the device of having students lead the class as a convenience which allows them to avoid taking the time for individual help.

Table 15: Student Involvement in Guided Practice

CATEGORY	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Type of involve.						
blackbd.work	0	11	19	10	8	18
oral chor.resp.	17	26	28	16	38	59
oral ind.resp.	79	70	65	35	77	65
seat practice	33	70	84	90	54	53
comment on oth.	8	13	9	6	15	12
peer help	17	13	9	18	8	0
lead cl.resp.	33	4	14	18	15	0
instruct class	8	7	9	8	0	12

Note: Percentages add up to more than 100 because of multiple answers.

Table 16 summarizes the observers' assessments of student understanding of subject matter at the end of guided practice. In the majority of classes there was some sign that children understood the material at the end of guided practice. The observers noted seeing students answering correctly more

often in the classes of female teachers, and there was a consistently stronger tendency for children to do the work without hesitating in these classes. In Urdu and science many more children were raising their hands to answer in the classes of female teachers. These teachers were also more likely to ask children if they understood the lesson in Urdu while men were more likely to ask the same question in science.

Table 16: Student Understanding in Guided Practice

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Signs of underst.						
most ans.cor.	33	63	16	67	31	61
many raise						
hands	38	61	40	40	38	67
teach.asks	54	83	79	73	77	67
work wo.hesi-						
tating	50	76	74	75	62	78
other sign	0	6	0	2	0	6
No way to know	8	13	5	8	23	6

Note: Percentages add up to more than 100 because of multiple answers.

Table 17 describes teacher feedback to correct and incorrect answers of students. Male teachers are consistently more likely than less effective teachers to give some kind of response to a correct answer, usually brief praise. On the other hand female teachers are more likely to use the "effective" responses of repeating the correct answer or reteaching the point with a statement that says, "Yes, that is correct because of (the following reasons)." Feedback for these teachers becomes an opportunity to reiterate the principles of the lesson.

In the case of incorrect answers, the most consistent difference across subject matters is the stronger incidence in female teachers to explain how to do the problem and ask the child to try again. This is also the most consistent characteristic of effective teachers generally. Otherwise, teacher behaviors differ by subject matter. In math, the male teachers are more likely to give the child a hint and try to elicit a correct response, or to simply move on to the next child. In science, the female teachers are more likely to give the effective feedback of simplifying the question and asking again. Male teachers are more likely in that subject to give hints or the correct answer. In most cases, the more effective feedback consists of helping the child come to a correct answer rather than allowing the child to fail or give up trying to find the correct answer.

Table 17: Teacher Feedback to Correct and Incorrect Answers

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Feedbk: correct ans.						
no response	21	37	14	38	15	22
brief praise	50	39	70	44	85	44
repeats correct answer	42	76	40	71	62	72
yes because..	42	57	44	44	46	67
Feedbk: incorr. ans.						
tch.simplifies question	58	57	58	58	54	72
tch.hints	42	35	60	48	69	50
tch.gives corr.	88	72	63	65	62	50
tch.goes to others	17	11	23	10	7	11
tch.explains/ ch.redoes	29	43	67	71	38	44

Note: Percentages add up to more than 100 because of multiple answers.

5.Independent Practice.

Independent practice was defined for the researchers as that part of instruction when students work on their own at their seats with less supervision from the teacher than occurred during guided practice. As noted earlier, independent and guided practice appear in some cases as gradations of each other. The purpose of independent practice is for the child to gain confidence in the skill by him or herself, after first efforts have been carefully monitored by the teacher during guided practice to ensure that the skill is being learned correctly. When teachers distinguish these two types of learning in the sample, their response is probably an intuitive feeling that children need both kinds of practice, since they are not explicitly taught to distinguish these activities in teacher training.

Close to a majority of each sample of teachers included what the observers could distinguish as a period of independent practice in the lesson period. However female teachers consistently and at a noteworthy level used independent practice more than male teachers.

Table 18 shows the incidence and kind of independent practice. The most frequent kind of independent practice in all subjects was individual seat work carried out by the student alone, and that was consistently more used by the female teachers. Male teachers were consistently more likely to use grade level or small groups in independent practice.

Table 18: Use and Kind of Independent Practice

CATEGORY	SAMPLE					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Use of ind.practice*	54	83	48	72	46	74
Kind of ind.practice**						
seat work	91	98	82	95	85	94
grade level						
groups	18	7	17	15	23	0
small group	14	2	17	0	8	0

*Entire sample **Portion of the sample using independent practice. Note: Percentages may add up to more or less than 100 because of multiple and "other" (excluded) answers.

Table 19 shows the sources and characteristics of tasks in independent practice. The large majority of all samples in all subject matters use textbooks as the source of tasks. In math, male teachers are more likely than female teachers to create their own tasks.

It is consistently more likely in all subject matters for female teachers ask children to copy or rework problems from guided practice. In math, particularly, female teachers are more likely to use this strategy.

The kinds of tasks in independent practice tend to vary importantly by subject matter. In Urdu, male teachers are more likely to ask children to read their texts and memorize while female teachers use greater variety in the tasks they are likely to assign: explanations, copying from text or guided practice, writing meanings, and writing practice. In math, female teachers again are more likely to ask children to do a variety of tasks: to solve problems, to copy from texts or guided practice, while male teachers are only more likely to assign reading practice and memory work. In science male teachers require more copying from text or blackboard, the solution of problems and again reading practice, while females ask more for explanations, examples, recitations at seats, labeling of items and solving problems.

Table 19: Tasks in Independent Practice

CATEGORY	SAMPLE					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Source of tasks						
teach. created	14	13	30	10	0	0
textbook	90	87	78	90	100	94
copied from						
guided prac.	24	27	17	46	15	31
reworked from						
guided prac.	24	36	13	46	8	13
Kind of tasks						
explanations	9	22	30	34	23	38

examples	14	13	26	20	8	19
copying from text or blkbd	36	53	35	51	46	31
copying from guided prac.	14	51	26	37	15	25
writing prac.	23	73	26	39	31	38
recite at seat	23	6	17	20	38	50
solve prob.	9	8	48	61	8	25
reading	59	29	22	10	77	38
memorizing	36	13	26	15	46	50
meanings	9	20	4	2	15	13
labels of items	0	11	0	0	0	25

Note: Percentages add up to more than 100 because of multiple answers.

Table 20 shows the kind of teacher monitoring and feedback that is carried out during independent practice. Female teachers are consistently much more likely to walk around the room or respond when a child expresses a need for help: in Urdu and science they are also much more likely to respond when a child comes to them, while males are more likely to use this approach in math. In Urdu and science there is much greater likelihood that male teachers will simply ignore the students. Overall, the males use much more passive and effortless means of monitoring students than female teachers. These passive means proved less effective in the broader study.

Female teachers are consistently more likely to direct feedback to individual students than male teachers. In science particularly males are more likely to direct their feedback to small groups of student. Female teachers are also consistently much more likely to give feedback to all the children in the class, while males were consistently more likely to give feedback to less than half or none of the students. However in math, male teachers do somewhat better and are more likely to cover more than half of the class.

Table 20: Monitoring and Feedback in Independent Practice

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Kind of monitoring						
teach.ignores	62	25	30	32	31	13
ch.come to teacher	24	69	57	51	38	69
teacher walks around	33	69	43	78	46	75
ch.indicate need	19	49	43	61	31	69
Kind of feedback						
to indiv. stu.	43	52	30	51	38	44
to whole gr.	??	??	??	??	??	??
to small groups	0	2	9	7	31	0

Comprehensiveness						
all	11	47	13	59	15	38
more than half	11	16	30	12	23	25
half	5	7	9	10	0	6
less than half	21	18	22	12	38	19
none	37	4	22	0	8	6
no feedback	16	9	4	7	15	6

Note: Percentages add up to more than 100 because of multiple answers.

The importance of various feedback strategies may lie in the circumstances existing in the classroom. Many classes are so large as to preclude much individual attention, and if much time is spent on this kind of attention in these classes, it may reduce the amount of instructional time that is available for each student. The teacher needs, therefore, to make intelligent decisions about what is the best kind of feedback to benefit the greatest number of students in his or her class. Overall however females seem much more likely to offer some kind of feedback to more students.

Of all the major activities in the classroom, independent practice is the one which gives the teacher the most opportunity to devote special attention to individual students who need help. While other students work on their tasks, the teacher can circulate around the room and quickly give brief periods of instruction to those who are having difficulty. In classes where all children are grasping the material well, it may be sufficient for them to monitor their own work from teacher feedback directed to the whole class.

6.Homework.

In the instructional periods covered by the study, only a third or fewer of the teachers were observed actually assigning homework. It is possible that children automatically assume a homework assignment and do it without being asked. Table 21, summarizes the findings about homework. Female teachers were consistently more likely to assign homework than male teachers.

Table 21: Homework

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
Use of homework*	22	35	22	30	21	30
Kind of homework**						
explana./ans.	40	19	0	19	67	17
examples	17	33	0	33	0	0
summarize	10	14	9	19	17	0
solve problems	0	27	100	63	17	50
rewrite	30	67	27	44	33	33
memorize prose	30	19	0	6	33	33
memorize facts	10	10	9	13	33	0

original work	10	29	0	6	0	0
calligraphy	30	38	9	13	0	0
drawing	20	14	0	6	0	0

*Entire sample **Portion of the sample using homework. Note: Percentages add up to more than 100 because of multiple answers.

The kind of homework assigned differs considerably by subject matter. In Urdu, male teachers were more likely to ask children to answer questions, and memorize prose, while female teachers are more likely to ask for examples, solutions to problems, rewriting materials, and original essays. In math, all the male teachers ask children to solve problems and little else (except for rewriting material). The greater tendency for female teachers to ask for variety comes particularly clear in math where in almost every category of homework except problem solution the female teachers are consistently more likely to assign some tasks. In science males are more likely to ask for answers to questions, for summaries, and for memorized facts, while females are more likely ask for solutions to problems.

Table 22 indicates how the homework is corrected. In a number of the classrooms, the observers were aware that there was homework but did not observe how it was corrected. In all subject categories, therefore, data are missing. This is particularly true of the classes of male teachers in Urdu and science, and of female teachers in math. If the missing cases are excluded, the overwhelming majority of remaining teachers employ the practice of correcting children's books individually.

Of the classrooms where it was observed that there was homework, a large proportion of teachers required that children correct their mistakes in homework. This is even more true for female teachers in math and science. It can probably be assumed that teachers in such classrooms, by simply involving the students in some sort of activity regarding homework, pay more attention to right responses and are therefore more likely to require correction of mistakes. Overall, the findings concerning homework reinforce an image of female teachers as somewhat more organized in the way they follow through with activities. Homework is assigned, it is reviewed in class and it is corrected by the students.

Table 22: Correction of Homework

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Kind of correction*						
teach.in books	50	93	60	83	0	67
tch.in sm.grs.	0	0	0	0	0	0
tch.w.full cl.	0	13	20	8	0	0
other adult	0	0	0	0	0	0
ch.do ea.other	0	0	0	0	0	0
other	0	7	0	8	0	0
hmkw but didn't see corr.	50	7	20	31?	100	33
Child corrects mistakes	75	71	50	83	0	100

Note: Percentages add up to more than 100 because of multiple answers. *Portion of sample doing homework.

7. Teacher-student interactions.

Table 23 describes the character of teacher-student interactions.

The majority of teachers in the samples direct most of the activities in the class and students respond only when called upon. Female teachers particularly use this approach in science. Male teachers in all subjects are consistently more likely to lecture in class with little student involvement. Female teachers are consistently more likely to allow a free exchange with students.

Overall female teachers are more likely to be permissive with their students and male teachers more likely to be firm. Few teachers were visibly harsh though particularly in the classes of male teachers there was ample evidence (in sticks or rulers lying on the desk) that physical punishment was a threat if not always a reality.

23: Teacher-Student Interactions.

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Character of inter.						
permissive	29	36	35	44	32	52
firm	68	51	61	47	68	48
brusque	0	9	4	7	0	0
harsh	2	4	0	2	0	0
Kind of interaction						
some stu.init.	12	16	16	11	7	17
free exchange	10	22	10	16	25	35
teach.dir./						
w.stu.res.	80	78	92	93	46	91
teacher lect./						
lit.stu.invol	37	13	33	15	64	13

Note: Percent may be more than 100 because of multiple answers.

Table 24 shows the way behavior is controlled in the classroom. Overall, children appeared well-behaved in the classrooms. In most cases they have been trained to sit quietly and not to disturb others in the class. Men were slightly more (but consistently so) likely to have established conduct rules for the class, whereas female teachers were slightly more likely to intervene when necessary. It was consistently more likely for observers to see some kind of control being used in the classes of female teachers.

Table 24: Behavior Control in the Classroom.

CATEGORY	SAMPLES					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Kind of control						
conduct rules	83	78	80	74	86	78
teach.interven.	10	18	16	19	14	17
lat.bef.interv.	2	2	4	0	0	4
other	2	0	0	2	0	0
no control	2	2	0	5	0	0
Nature of control						
oral	?	?	?	?	?	?
physical	10	11	8	9	7	13
observed both	7	5	6	11	7	13
obser.neither	51	38	63	46	61	39

Note: Percentages may add up to more than 100 because of multiple answers.

Table 25 summarizes language use in the classroom. Female teachers consistently use Urdu much more frequently as the main language of instruction. This is strikingly so in math and science. In fact it is only in the classes of male teachers that no Urdu may be spoken at all by the teacher. Females are also consistently less likely to use any second language. It may be surprising then to find that the students of female teachers appear to understand the language of instruction better than in the classes of male teachers who presumably use local languages more often. The students of female teachers, probably as a consequence of so much Urdu, overwhelmingly understand Urdu better than the students of male teachers according to observers. There is not much difference in their accents which are generally good to excellent in the majority.

Table 25: Language of Instruction

CATEGORY	SAMPLE					
	URDU		MATH		SCIENCE	
	M	F	M	F	M	F
	%	%	%	%	%	%
Main language						
Urdu	83	100	57	98	57	100
Sindi	0	0	20	2	29	0
Punjabi	15	0	20	0	14	0
Pashto	2	0	2	0	0	0
Second lang.						
no	46	98	53	91	57	100
yes	22	2	47	9	43	0
Ch.comprehend lang. of instruction						
no	0	4	0	4	0	13
yes	78	93	88	89	79	91

partly	22	4	12	4	21	13
Comprehension of Urdu						
excellent	2	27	6	23	4	30
good	46	64	41	58	46	65
average	24	7	20	14	14	4
fair	10	2	6	5	4	0
poor	12	0	6	0	4	0
no Urdu	5	0	20	0	29	0
Accent in Urdu						
excellent	12	4	14	12	7	17
good	49	56	35	49	50	61
distinct accent	32	33	31	32	14	22
hard to under-						
stand	2	0	0	5	0	0
no Urdu spoken	5	2	20	0	29	0

ANNEX A

Instructional Practices Which Distinguish Male and Female Teachers

Table A identifies those practices which distinguish the male from the female teachers by their greater or lesser incidence. Those practices reported may not, however, be used by a majority of either sample. The first number represents male teachers and the second number the female teachers. A difference of ten or more percentage points is considered worthy of comment; otherwise the practice does not appear. It is important to note the direction of the difference, whether it is more commonly employed by males or females.

Table A: Instructional Practices Which Distinguish Male From Female Teachers

CATEGORY	SAMPLES		
	URDU M:F	MATH M:F	SCIENCE M:F
Review	42:38	44:39	48:70*
short review bef. lesson	47:67*	57:44	71:43
old material dur. wh. lesson	47:33	38:55*	14:43*
previous lesson	76:64	67:82*	X
previous work	X	52:23	50:27
Preliminaries	X	86:72	78:96*
topic of lesson	76:90	X	X

objectives	29:84*	26:51*	43:59*
Presentation	83:71	X	X
small steps w.prac.	24:36*	X	8:40
lecture method	68:38	32:63*	X
direct prac.	26:46*	X	X
definitions	65:33	30:45*	69:55
examples	X	49:63*	X
blackboard ex.	X	62:73*	27:50*
Clarity of present.			
confusing present.	41:28	35:10	58:20
explanation clear	X	73:83*	50:65*
words approp.	38:67*	49:63*	42:50*
Pacing approp.	59:72*	X	42:65*
too slow	26:15	32:20	X
too fast	X	X	27:15
Paced for:			
slowest stu.	X	X	29:61*
smartest	X	X	54:22
middle	18:29*	X	X
Presentation approp.	71:85*	X	69:80*
subject level rt.	X	X	77:95*
sub.level too easy	X	X	15:5
text level rt.	X	73:83*	X
teach.expl.clear	X	59:71*	46:70*
Guided practice	59:86*	X	46:78*
Prac.w.no explan.	29:46*	51:35	X
Ch.fin.sev.tasks			
bef.fdbk.	8:20*	X	X
Fdbk.after ea.task	50:33	26:40*	38:61*
System for calling on students			
Brightest	X	X	38:0
Random	57:35	X	23:33*
Mix	0:11*	X	0:22*
Coverage			
Every ch.prac.	75:59	X	31:41*
More than half	8:28*	X	X
Less than half	X	X	31:18
Use of tasks	X	X	85:100
Tasks/guided prac.			
summaries	X	X	38:17
chor.repetition	38:22	X	17:33*

ind. repetition	72:54	X	62:44
reading	X	X	62:50
understanding	50:61*	21:44*	38:67*
meanings	54:43	5:19*	23:33*
basic facts	X	37:48*	46:67*
identify items	13:28*	X	X
writing task	33:63*	X	23:33*
correct mistakes	13:26*	X	X
copy	29:43*	X	38:22*
watch demon.tasks	42:17	X	54:39
Teach directs/stu.			
responds	75:65	93:58	X
stu.questions	X	X	31:18
both	13:26*	2:27*	8:18*
No.of tasks			
1-3	38:76*	23:56*	69:82*
4-6	42:13	53:31	23:12
7-9	17:4	X	X
Response expected			
one corr.ans.exp.			
showing know.	42:54*	81:75	62:78*
process ans.	33:20	51:33	X
application	X	37:27	X
memorized	X	X	15:50*
repetition	33:48*	X	46:67*
copying	21:43*	14:38*	38:22
Activities:guid.pr.			
blkbd work	X	X	8:18*
oral chor.resp.	X	28:16	38:59*
oral ind. resp.	X	65:35	77:65
seat work	33:70*	X	X
lead cl.resp.	33:4	X	15:0
instruct class	X	X	0:12
Signs of under.after			
guided prac.			
ch. answer corr.	33:63*	16:67*	31:61*
many ch.raise			
hands	38:61*	X	38:67*
teach.asks	54:83*	X	77:67
ch.wk.wo			
hesitation	50:76*	X	62:78*
Teacher feedback			
<u>for correct ans.</u>			
no response	21:37*	14:38*	X
brief praise	50:39	70:44	85:44
teach. repeats ans.	42:76*	40:71*	62:72*

teach."yes, bec." <u>for incorr.ans</u>	42:57*	X	46:67
teach.simplifies	X	X	54:72*
teach.hints	X	60:48	69:50
teach.gives corr.	X	X	62:50
teach.goes to next child	X	23:10	X
teach.expl;ch.redo	29:43*	X	X
Independent pract. seat work	54:83*	48:72*	46:74*
grade level group	X	82:95*	X
small group	18:7	X	23:0
	14:2	17:0	X
explan. tasks	9:22*	X	23:38*
examples	X	X	8:19*
copy material fr. text	36:53*	35:51*	46:31
copy from guid. practice	14:51*	26:37*	15:25*
practice writing	23:73*	26:39*	X
recite out loud	23:6*	X	38:50*
solve prob.	X	48:61*	8:25*
practice reading	59:29	22:10	77:38
memorizing	36:13	26:15	X
copy meanings	21:11	X	19:8
copy labels	X	X	0:25*
task source:			
textbook tasks	X	78:90*	X
copy fr.guid.pr.	X	17:46*	15:31*
rework fr.guid.pr.	24:36*	13:46*	X
monitoring:			
teach.ignores ch. in ind. prac.	62:25	X	31:13
ch.come to teach. when finished	24:69*	X	38:69*
teach.walks around	33:69*	43:78*	46:75*
ch.indicates need from seat	19:49*	43:61*	31:69*
fdbk to individs.	X	30:51*	X
fdbk to whole gr.	?	?	?
fdbk to small gr.	X	X	31:0
Comprehensiveness			
all get fdbk	11:47*	13:59*	15:38*
more than half	X	30:12	X
less than half	X	22:12	38:19
none	37:4	22:0	X
Homework assigned	22:35*	X	X

explan./answers	40:19	0:19*	67:17
write examples	17:33*	0:33*	X
summarize mater.	X	9:19*	17:0
solves problems	0:27*	100:63	17:50*
rewrite mater.	30:67*	27:44*	X
memorize prose	30:19	X	X
memor. basic facts	X	X	33:0
original work	10:29*	X	X
Corr.of homewk.			
teach.in book			
teach.w.full cl.			
no hmwk.corr.in cl.			
ch.corr.mistakes			
in homework			
Teach./stu.interact.			
permissive	X	X	32:52*
firm	68:51	61:47	68:48
Class.interaction			
stud.initiates some	X	X	7:17*
free exchange	10:22	X	25:35
teach.dir/stu.res.	X	X	46:91*
teach.lec/little			
stu. resp.	37:13	33:15	64:13
Main lang. of inst.			
Urdu	83:100*	57:98*	57:100*
Sindi	X	20:2	29:0
Punjabi	15:0	20:0	14:0
Use of 2 nd lang.	22:2	47:9	43:0
Stu.comp.			
lang. of instr.	78:93*	X	79:91*
Urdu:excell.	2:27*	6:23*	4:30*
good	46:64*	41:58*	46:65*
average	24:7	X	14:4
poor	12:0	X	X
no Urdu	X	20:0	29:0
Accent			
Urdu:excell.	X	X	7:17
good	X	35:49*	50:61*
no Urdu	X	20:0	29:0

Note: Percentages may add up to more than 100 because of multiple answers. *These characteristics are stronger among female teachers.

i.Initial fieldwork preliminary to the formal study convinced us that classroom practices could be collected for convenience under these headings.