MULTI-CLASS STUDY

NORTHWEST FRONTIER PROVINCE

OFFICE OF THE DIRECTORATE OF
PRIMARY EDUCATION
NWFP

DIRECTORATE OF PRIMARY EDUCATION

NWFP

MULTI-CLASS STUDY

EXECUTIVE SUMMARY

Introduction

In many Pakistani primary schools, especially in rural areas, one teacher teaches more than one class[1] of students at a time. Though these multi-class groupings exist extensively, the conditions and problems they present to the quality of learning remain largely unrecognized. Research carried out in Pakistan by the BRIDGES Project has shown that children in multi-classes have lower achievement scores than children in single classes. Research in other countries shows that this need not be the case--multi-class environments can produce students with achievement that is not appreciably different from that of students in sirgle classes. Some even believe that conditions in multi-classes can make them better contexts for learning social and other skills that are important for children.

At present in NWFP, resources are not specifically allocated to solving the special problems of multi-classes; teacher training, curriculum, textbooks, and physical facilities are designed for classrooms where a teacher teaches a single class of students. A consequence of the fact the multi-classes remain unrecognized is that officials are unaware of the actual conditions that exist in these classes or of the practices that teachers use in dealing with the difficulties of such classes. This study is aimed at collecting information about multi-classes for the use of policy makers and implementers developing an improved primary program.

Study purpose

This multi-class study had two objectives:

1) to gather current information on the conditions and practices in multi-classes as a basis for making improvements in instructional materials and inservice training of teachers

2) to train relevant personnel in supervision of fieldwork, classroom observation and data collection so that they may

[1]The term "class" is the equivalent of "grade" used in some other countries. It refers to groupings of children by recognized system-wide instructional levels.

become part of an institutionalized system of program improvement

The study was designed and field-tested in the spring of 1991 and conducted in September 1991. The sample consisted of multi-classes in 64 NWFP schools selected randomly from categories of schools based on gender, number of classes taught by a teacher, and "quality" (as ranked by supervisors).

The present complete report is primarily descriptive--summarizing the conditions and teaching practices in multi-classes. A smaller section at the end analyzes the relationship between conditions and practices in multi-classes and learning outcomes in an effort to identify potentially useful strategies for coping with the multi-class environment.

This summary extracts conclusions from the findings and reorganizes them for the benefit of policy makers, curriculum developers and teacher trainers. Suggestions are offered on possible ways to improve the quality of multi-class learning.

Multi-classes are defined here as groups of students of more than one class (grade) level taught by a single teacher. The issue of multi-classes is largely one of "special conditions" in the schooling environment that may have an effect on both the quantity and quality of learning outcomes.

Policy issues

The findings of the study inform two policy issues of concern in multi-classes:

- o whether to recognize the special conditions of these classes officially with resources to improve the quality of the educational program, and

- o whether there is a wastage problem in these classes that requires addressing the reasons for dropout and repetition.

These two issues are interrelated in that improving the quality of the program is also likely to address the problem of wastage by helping to reduce repetition and dropout.

Improving the quality of multi-class programs.

At present multi-classes exist extensively in NWFP, especially in rural areas. Not recognizing these classes and their special problems with appropriate resources means that they will continue to provide the poor environment for learning that currently exists.

The following are some of the main conditions found to be typical of multi-classes in the sample:

o **Teacher-directed instruction:** Instruction in NWFP multi-classes, as in single classes, is heavily dependent on direction by a teacher. This tendency intensifies problems of learning in multi-classes where teachers must divide their attention among students in all their classes. Students do not stay engaged in instructional tasks as well when the teacher is busy with another class; in multi-classes they may spend half or less the amount of time in instruction as students in single classes. The present school day permits 4.5 hours of instruction, plus a roughly half hour break but much less of this time may actually be spent in instruction.

o **Teacher capability:** Many teachers have possibly low academic ability (half have third division scores from their academic training; very few have first division scores); many find some of the primary curriculum difficult, and some have actually been observed teaching incorrect information.

o **Materials' limitations:** Instructional materials cannot be used easily without a teacher's explanation. They contain limited directions and few exercises, which reduces their usefulness in multi-classes.

o **Class size:** Overall, the number of students taught by one teacher varies considerably (from 6 to 114); individual class levels can be as small as 1 or 2 students. On average one teacher taught 36 children in the sample.

o **Age variations:** Students' ages in multi-classes usually span more years (up to 6 or more) than in single classes. This makes it more difficult to combine class levels occasionally for the purpose of teaching whole group sessions.

o **Instructional aids:** Classrooms contained limited instructional resources--usually only textbooks and blackboards. Teachers had few other supports to help them in instruction--a few wall charts, or, sometimes, a teaching kit.

o **Facilities:** Many schools were without essential facilities such as toilets (53% had none), drinking (31%) and washing (27%) water, secure storage space (22%) and playgrounds where outdoor activities could take place (64%). A third (38%) of the classes were unsheltered.

o **Supervision:** Supervisors who are supposed to support the quality of instructional programs continue to see their role as primarily inspection. They tend to evaluate quality in terms of facilities, and other organizational criteria such as cleanliness, discipline, attendance, etc., rather than academic criteria. At present, they appear to have an important role in evaluating students for promotion and therefore could exert a strong influence on academic

standards.

There are aspects of the current system that teacher trainers and instructional materials developers can build upon:

- **Qualified teachers.** Almost all the sample teachers (97%) were academically qualified at or above the local matriculate standard expected for recruitment to teaching, and most were professionally trained (80%). Improvements in already existing academic or professional training, will ultimately affect a large number of teachers.

- **Inservice training.** Inservice training was experienced by over half the teachers (66%). Improvements in inservice training can reach many teachers without additional costs.

- **Practices with potential for effective teaching.** Most teachers in the sample kept a reasonably orderly environment in the classroom. They were familiar with such techniques as the use of students to extend the period when the class practices. Most recognize a progression of systematic steps in teaching, though many could be taught to make better use of these steps.

- **Basic instructional aids.** Even though classrooms were minimally furnished, almost all had the most essential instructional aids: blackboards and textbooks.

- **Language.** Most instruction was carried on in a local language so children could understand the concepts. The sample showed a fairly good match of teacher and student language (86% of teachers spoke the local language of their students).

Some factors in the existing primary program of NWFP appear to be associated with higher levels of learning. The following are the most important factors associated with an increase in learning:

- **The number of class levels combined.** The fewer the number of classes combined, the more students appeared to learn.

- **The amount of teacher involvement.** The more the teacher was involved directly in class instruction the more the students learned.

- **Teachers with higher scores on graduation.** Teachers with higher scores on academic graduation seemed to be more successful at helping children learn.

- **Use of "effective teaching practices."** Teachers who kept their children involved in learning were more likely to use "effective practices" than those who did not (see Section 3.2.1 for these practices).

The findings suggest that, under present conditions, the academic program in multi-classes might be improved with the following changes:

o **Materials improvement:** Instructional materials might be designed with more self-explanatory lessons and many more exercises that students could do on their own with minimal help from the teacher. Wherever possible, subjects might be integrated or reduced so instruction could focus on the most essential skills.

o **Teacher support materials:** Teachers who are weak in capabilities need help in knowing how and what to teach when they must divide their time between classes. They might be helped with "cookbook" guides that give simple step by step directions on how to teach each lesson of the text. If these guides provide extra practice problems and correct answers, as well as assessment questions to see if students have learned the work, the teacher's work will be made much easier.

o **Teacher training programs:** Programs for pre- and inservice teacher training might include techniques in how to manage and teach effectively in multi-classes. Teachers could learn the implications of instructional practices for student learning, how to assign "contingent" tasks that keep children engaged in learning even when teachers are busy with other classes, and how to use improved materials and teacher supports such as those suggested above. Teachers could also learn how to extend their own limited time with such techniques as a more productive use of student tutors.

o **Supervisor, and other managerial training.** Training could be designed for supervisors, headteachers and other managers in how to supervise instruction in multi-classes. To evaluate the effectiveness of programs, they need to learn what kind of information is needed and how to collect it. They need to know how to support teachers in following the "cookbook" instructions described above, and to have their own understanding of what techniques work well in multi-classes.

o **Facilities.** New facilities and furnishings can be designed to provide a reasonable level of comfort without great expense and allow for locating children of different learning levels in ways that improve the management of multi-classes: for example, blackboards could be used as simple room partitions, seating arrangements could be kept flexible as is now possible using mats, rather than more difficult-to-use desks.

o **Teacher recruitment.** Teachers should be selected as much as possible on merit, trying to select, whenever they are available, from the higher first and second division graduates.

- **Teacher assignment.** If the system changes only minimally, teachers should be assigned as few class levels as possible--usually not more than two, where enrollments permit. The alternative is to train teachers to cope with more class levels in a way that student learning is not hurt by combinations of more classes.

Improvements in the quality of multi-class programs, as of single-class programs, also call for a review of the kind of learning that now takes place in all classrooms of NWFP. This quality issue--about whether an almost exclusively rote learning is desirable or whether the current content of instruction is appropriate, needs to be considered by local educators. This report is confined only to addressing the issues of what presently exists in the multi-class context.

A PROGRAM USING TECHNIQUES DESIGNED FOR MULTI-CLASSES CAN BE USED EFFECTIVELY WITH SINGLE CLASSES; THE REVERSE IS NOT AS LIKELY TO BE TRUE.

Wastage in multi-classes.

Wastage occurs when students drop out of school before gaining full mastery of the skills expected of them, or when they repeat academic years, tying up resources that might have been used to provide places for more students. The study found what appears to be significant wastage in the multi-class sample, though perhaps not as much actual dropout in the lower classes as is generally claimed to be the case. Because the study did not collect historic data, it is impossible to know what proportion of students who entered preprimary earlier, were still in Class Five, or how many years on average it takes to produce primary school graduates.

The findings about wastage in this sample are as follows:

- **Enrollments.** Average enrollments in Kachi and Class One were about the same for males and females in the sample (about 20 for each sex and for each class). After Class Two, the average enrollments of girls decreased quickly until by Class Five, they were only half (10) that of boys (20).

- **Dropout.** Boys tended to have higher dropout rates (ranging from 5% to 9%) in almost all classes compared to girls (range from 2% to 8%).

- **Repetition.** Girls' repetition rates (range 5% to 20%) were higher than boys (5% to 12%) from Kachi through Class Four, with both sexes showing higher repetition rates in the lower as opposed to upper classes.

In general, dropout and repetition rates were highest in the Kachi class and decreased in the upper classes. The absolute numbers of

boys repeating and dropping out were about the same in all classes while, for girls, repeaters were more numerous in all classes than dropouts.

The significance of high repetition is two-fold: first, studies have shown that repetition may lead to dropout in students who become discouraged by their failures and, second, as already noted, wastage of any kind is an inefficient use of educational resources.

Conclusion

The problems of effectiveness and efficiency in multi-classes are related. From findings in this study, it appears that **improvements in the quality of learning, especially in Kachi through Class Two levels would do the most to improve both efficiency and effectiveness.** Improving quality (effectiveness) in multi-classes requires that a number of changes occur in the way these classes are now conducted. They can be made less teacher-dependent; materials can be designed for greater self-instruction; "cook-books" can be provided teachers to make their work easier and ensure an acceptable standard; techniques can be developed to keep children engaged in instruction when teachers are busy elsewhere; courses can be focused on basic skills, etc.

Though this study was intended primarily to describe conditions in multi-classes, there was also an attempt to identify and support effective means of improving the quality of the academic program. The study did this in four ways:

- o by developing and giving preliminary testing to performance measures that might provide a means of assessing learning outcomes in multi-classes;

- o by identifying teacher and student characteristics and activities that are associated with higher performance measures;

- o by examining implicit supervisor criteria for assessing the quality of programs to identify present expectations for the primary years; and

- o by training a network of district officials responsible for academic quality in the basic skills of observation and data collection that they will need if they are to carry out a program of academic improvement (see Annex D for participating individuals).

All these activities are described more fully in the complete report.

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1 INTRODUCTION

1.1 **Problem.** In many Pakistani primary schools, especially in rural areas, one teacher teaches more than one class of students at a time. Though these multi-class groupings exist extensively, the conditions and problems they present to the quality of learning remain largely unrecognized. Research carried out in Pakistan by the BRIDGES Project has shown that children in multi-classes have lower achievement scores than children in single classes. Research in other countries shows that this need not be the case--multi-class environments can produce students with achievement that is not appreciably different from that of students in single classes. Some believe, in addition, that conditions in multi-classes make them better contexts for learning social and other skills that are important for children.[1]

At present in NWFP, no resources are specifically allocated to solving the special problems of these classes: teacher training, curriculum, textbooks, and physical facilities are not designed specifically for such conditions. Another consequence of the problems remaining unrecognized is that officials are unaware of the actual conditions that exist in these classes or of the practices that teachers use in dealing with the difficulties of these classes. This study is aimed at collecting information about multi-classes at the primary level for the use of policy makers and implementers of an improved primary program.

1.2 **Study purpose.** The multi-class study had two objectives:

1) to gather current information on the conditions and practices in multi-class classes as a basis for making improvements in instructional materials and inservice training of teachers

[1] For a review of research on multi-grades, see Bruce Miller, The Multigrade Classroom: A Resource Handbook for Small, Rural Schools, 1989. Northwest Regional Educational Laboratory, Portland Oregon.

The studies were conducted in September 1991, after summer holidays and when both winter and summer area school sessions coincided--that is, both were well into the school year.

2 DESCRIPTIVE FINDINGS:[4]

The findings below report, first, the general case and then, where appropriate, differences related to gender and whether teachers taught 2 or more than two classes.

2.1 **Background.** The education system in Pakistan formally recognizes only 5 classes or grades--one through five. However, most schools actually have six or seven identifiable levels of schooling. The additional classes consist of students in pre-primary levels of Kachi (First Junior) and Zero class (children who are attending school but are considered to be "unadmitted").[5] In NWFP, teachers are usually assigned to schools based on a ratio of one teacher to every 40 or 50 officially enrolled children. When a new school is constructed, educators plan to provide two teachers to teach all the children until enrollment rises to a level where more teachers can be sanctioned. For these reasons and because rural schools tend to have smaller enrollments, it becomes inevitable that teachers will teach more than one class. In larger schools, the "unadmitted and unrecognized" preprimary children force higher student-teacher ratios than those officially recognized with resources by education authorities. Because these children need to be located somewhere, most become attached to other classes to become part of a multi-class.

2.2 **School characteristics.** The head teacher or a knowledgeable person was interviewed in each school to determine school level characteristics possibly affecting multi-classes. Where school census data were involved, researchers confirmed their answers in school registers.

2.2.1 **Sample schools.** All of the 64 schools, by reason of the study design, contained multi-classes. Table 1 shows the number of schools meeting the characteristics of the sample. An effort was made to keep the comparable categories as equal as possible in these characteristics. School location was not one of the selection criteria because multi-class schools, by nature of their smaller size, appeared more often in rural areas than urban environments. In this sample, however, a reasonable number of urban multi-class schools appeared (41%) compared to schools in rural areas (59%).

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[4]Study method is found in an annex

[5]For more information on preprimary classes see the NWFP Directorate of Primary Education Kachi Study Report.

Similarly, recently established schools tend to go through a period when there are a number of multi-class teachers before their enrollments become large enough to warrant single classes. This assumption was supported by the number of incomplete schools that showed up in the sample. In the sample, 2 (3%) of the schools had classes only to grade 3, 14 (23%) to grade 4, and the rest 45 (76%) had the full five grades.

Table 1: Sample schools

Characteristic	Number of cases	% of tot.sch.sample
Supervisor rank		
1 (High)	18	28%
2	15	23%
3	19	30%
4 (Low)	12	19%
Gender		
Male	32	50%
Female	32	50%
No. of classes taught		
Two	30	47%
More than two	34	53%

2.2.2 **School enrollments.** Table 2 shows the enrollments in the sample schools. The schools averaged 105 students, but ranged in size from 15 to 502 students. Not surprising, male schools had somewhat higher average enrollments (115) than girls (94), and schools where teachers taught 2 classes were larger (133) than those where they taught more than 3 (79). In general, then, the multi-class schools turned out to be relatively small in size.

Table 2: Enrollments in sample schools

Enrollments	No. of schools	% of tot.schools
15-100	38	59%
101-200	18	28%
201-300	5	8%
301+	3	5%

2.2.3 **Class enrollments.** One reason for multi-classes is to accommodate classes that are not large enough to warrant a single teacher. Table 3 shows the average class enrollments in the sample schools. All the classes are below the 40 or 50 children enrollments which would allow a full teacher to be assigned to a class. By these enrollments alone, one would expect the officially allocated teachers to number two for these seven classes.

Table 3: Class size in the sample schools

Class	Average no. of children	Range of enrollment where class exists
Zero	14	2-60
Kachi	22	1-123
One	20	2-92
Two	18	2-90
Three	14	1-78
Four	12	2-60
Five	11	1-96

2.2.4 **Facilities** . Table 4 shows the facilities available in the schools. These are facilities which are generally considered minimally necessary for schools with young children.

Table 4: Facilities in sample schools

Facility	Number	% of schools with
Drinking water	44	69%
Washing water	47	73%
Toilets	30	47%
Playgrounds	23	36%

Table 5 shows where the multi-classes were located. In comparison to Kachi classes (see NWFP Kachi study) where most are unsheltered, the multi-classes of the sample are largely sheltered, with the most common pattern the one where all classes sit in a single classroom.

Where classrooms existed in the sample, they averaged about 364 square feet or about 20 feet by 18 feet, but ranged in size between 99 and 432 square feet. In half the classrooms, children took up half or less of the space and, in the remaining, more than half or all the space. In almost 80 percent they do not fill all the space in the classroom--that is, they did not appear to be crowded. Students of 2-class teachers filled more of the classroom space than did students of 3-class teachers. This is consistent with the smaller number of students in the classrooms of the latter.

Table 5: Location of observed multi-classes

Location	Number	% of classes
Unsheltered	4	6%
Some in room/some unsheltered	17	27%
All in one room	36	56%
All in several rooms	4	6%
Other arrangements	3	5%

In an open-ended question, teachers suggested some difficulties affecting the teaching of multi-class children that related to facilities. Most important (25% of those responding) was the presence of a number of classes in the same room; teachers suggested building larger schools so the classes might be separated, each to a room. Others mentioned larger rooms (5%), greater comfort--electricity, bathrooms and water (5%). Facilities, however were not as important to teachers as other problems relating to the management of multiple classes.

2.2.5 **School schedules.** Time is an important resource for learning. The majority (98%) of the sample schools had a 5 hour school day, including one break (92%), of approximately half an hour (25 minutes). Time allocated to learning time was therefore about 4 and a half hours. Primary children need adequate instructional time but they also need breaks where they have some physical activity. In 9% of the schools there were no breaks at all.

2.3 **School policies.** A number of policies relating to admission, attendance, and promotion affect the size and composition of multi-classes. Policies here are defined as rules and regulations that have become routine practice.

2.3.1 **Admission.** Admission to school comes normally through enrollment in the Zero or Kachi Classes, neither of which are formally recognized in the school system. Nevertheless, admission rules related to these classes, even though developed informally, affect the numbers and characteristics of children in multi-classes. Almost all (95%) the schools had rules about which children they would admit to the Kachi class. These rules included age requirements, almost always age 5 (80%), the knowledge of certain information such as alphabets, numbers, etc. (63%), adequate mental capabilities (6%), following proper admission procedures--filling application, entering names in register, etc. (31%), mentally old enough to take care of him or herself and come regularly (2%), a specified period in Zero class (8%), and appropriate fees and supplies (16%).

In contrast to the case of Kachi admission, Zero class admission practices vary more from school to school. A number of schools (20%) had no rules, and some (16%) had no Zero class. Most of the rules concerning admission of Zero children involved the capabilities of the children--whether they were the right age--from 3 1/2 to 5 (47%), and old enough to either profit from the class or take care of themselves--to talk and understand, come to school alone, stay in school several hours, use toilet facilities, etc.(42%) These rules varied from school to school, and sometimes case to case. Of those admitting Zero children, some said they recorded the names of the children in the register, and others said they did not. A few (9%) even required knowledge of alphabets and numbers before admission.

In schools where Zero children were accepted, teachers reported that they had refused admission to children because they were too young (57%), the wrong sex (10%), too old (22%), not enough space (16%), not enough teachers (18%), or too many students (14%). From these reported refusals, age appears to be the most important deterrent to admission, more than space or student/teacher ratios. Since the multi-classes tended to be smaller than average, it is not surprising that space and numbers of students did not seem important.

Many (86%) of the schools reported a date in the school year after which preprimary children might not be admitted. Most specified a date for ending Kachi admissions but these dates varied considerably from school to school, whereas most (60%) Zero children, if they were allowed to enter at all, were admitted throughout the school year.

2.3.2 **Attendance.** Attendance is important if children are to

have the full benefit of the instructional program. Many of the sample schools had rules about attendance. Most were related to the procedures of taking attendance--how often attendance was taken and the requirement that it be recorded in the register usually once a day, while others related to the fact that parents were notified of a child's absence. In a few (6) schools the children were dismissed after a continuous absence of 10 days without formal excuse.

Teachers reported that attendance in the classes was generally good, and that the older the children the better it was. Whereas 26% of Zero classes had fewer than half the children with regular attendance, in the upper classes only about 5% of children fell in this poor category of attendance by teacher estimates.

2.3.3 **Promotion.** Standards can be set for the educational program by requiring an assessment of student learning. The assessment may be more rigorous if developed and administered by an official not involved in the process of instructing the students. All sample schools tested children for promotion. Of schools where Zero classes existed, 19% had no exam for promotion. In the rest, almost all required children to know alphabets and numbers, religious memory work (26%), tables (17%), Pashto (17%), names for the parts of the body, English and writing (all 6% each). The persons who made and gave the test were the same in this class: a headteacher (54%), a class teacher (24%), no specified person (20%) or an ASDEO (2%).

According to teachers. in schools where Kachi classes existed (95%), there was almost always (98%) an exam required for promotion to Class One. Kachi children were required to know numbers, usually to 100 (93%), the alphabet (97%), tables (45%), religious prayers and recitations (40%), the English alphabet (37%), the Pashto alphabet (60%), some science such as about body parts, etc. (20%). To start Class One, the recognized part of schooling, in all the sample schools, therefore, a child needed to know a considerable amount of information--much of it content that in many other countries is considered Class One material. More than half the promotional tests for this level were made and administered by the classteacher (55%) and in most of the rest of the schools by headteachers (29%) or ASDEOs (17%).

Where Class One existed (97%), according to teachers, there was almost always (98%) an exam required for promotion to Class Two. Class One children were required to know the content of courses in math (95%) and Urdu (95%) Islamiyat (46%), English (80%), Pashto (64%), and social studies (15%), as well as multiplication tables (25%) and some science, including body parts (23%) and other subjects asked by the examiner (8%). Usually the class teacher made and administered the tests (52%) and most of the rest were made and administered by headteachers (24%) or ASDEOs (24%).

Where the other primary classes existed, they usually required

examination in the same subjects as Class One above, for promotion to higher classes. Students in Classes Two through Five were usually examined in the content of the math, Urdu, Islamiyat, English, Pashtu (where that was the main local language), social studies, and other subjects such as tables, hand writing, dictation, and drawing. In Classes Two through Four the class teacher most often made and administered the tests (52%) and the rest were made and administered by headteachers (17%) or ASDEOs (31%). In Class Five, where this class existed and where exams were given (98%), an outsider to the school--the ASDEO or some person from the DEO/supervisory staff, was more likely to have made and administered the exam (56%). In the rest of the schools, the exam was written and given by the class teacher (29%) or the headteacher (15%). Thus, district level officials were more involved in setting the standards in the last year of primary education.

Teachers probably felt a certain amount of pressure to bring their students to an expected standard of education, as the result of the involvement of a supervisor or head teacher who helped decide about promotion.

2.4 **Wastage in sample schools.** One indication of the effectiveness of instruction is whether children pass through the classes in the normal time period. Perfect efficiency, in this case, would occur if all children passed through the education system spending only one year in each class. Where two preprimary classes exist in schools, the full primary program totals 7 years in NWFP.

2.4.1 **Enrollment, repetition, dropout.** Table 6 shows the average class enrollments, repetition, and dropout in the sample schools. Since gender is often thought to influence these rates, the table breaks down the sample by this characteristic.

The table shows that the average enrollments of girls' classes exceeded that of boys in Kachi and Class One but then the girls' enrollments decreased more quickly after Class Two, until, by Class Five, their enrollment was considerably less than boys. If one assumed that current enrollments represent the numbers continuing on to higher classes on a usual basis, it would be difficult to explain why this decrease in girls' enrollments occurs since drop out rates tend to be higher in most of the boys' classes. It is more likely that the girls' admissions were smaller in the early classes that contributed students to present higher classes. Interest in girls' education may have been more recent when compared to the interest in boys' education.

In general, dropout and repetition was highest in the Kachi class and lower in higher classes, and is about the same proportion for both sexes. Only in the Zero class is there a major difference between boys and girls, with the girls having lower rates of both dropout and repetition.

Table 6: Class enrollments, dropouts and repetition by gender

Class	Ave.enr.*		Ave.do**		Ave.rep.	
	M	F	M	F	M	F
Zero***	18	16	1.8(10%)	0.4(3%)	2.1(12%)	1.0(6%)
Kachi	19	25	1.8(9%)	1.6(6%)	2.8(15%)	4.1(16%)
One	16	22	1.0(6%)	0.5(2%)	1.4(9%)	2.1(10%)
Two	16	17	0.7(4%)	0.9(5%)	1.6(10%)	1.7(10%)
Three	13	13	1.0(8%)	0.6(5%)	0.8(6%)	1.1(8%)
Four	12	11	0.8(7%)	0.4(4%)	0.7(6%)	0.7(6%)
Five	15	11	0.8(5%)	0.5(5%)	1.0(7%)	0.5(5%)

*Enrollments at the beginning of the school year.
**Dropout from the beginning of the school year.
***Zero children are usually not registered and therefore these data cannot be confirmed in the school registers.

Table 7 looks at dropout in terms of the number of classes combined under one teacher. At the beginning of the school year, school registers showed an average 38 students in a sample multi-class. Researchers observed 36 students when they visited the classes. Teachers said an average 2.2 children per multi-class left school since the beginning of the year which would mean an overall dropout rate of 6%.

The teachers teaching fewer classes had larger numbers of students in their classes and had somewhat higher dropout and repetition rates, though not consistently. The Kachi class for both groups had the highest dropout and repetition.

Table 7: Class enrollments, dropouts and repetition by number of classes taught by teachers.

Class	Ave.enr.*		Ave.do**		Ave.rep.	
	2CL	3,4CL	2Cl	3,4CL	2CL	3,4CL
Zero***	23	15	2.2(10%)	0.4(3%)	1.7(7%)	1.0(6%)
Kachi	31	16	2.1(7%)	1.5(9%)	4.2(13%)	2.8(18%)
One	24	17	1.3(6%)	0.4(2%)	2.0(8%)	1.5(9%)
Two	24	14	1.2(5%)	0.6(4%)	2.6(11%)	1.1(8%)
Three	18	11	1.2(7%)	0.6(6%)	1.4(8%)	0.6(5%)
Four	18	8	0.9(5%)	0.4(5%)	1.1(6%)	0.3(3%)
Five	19	8	1.4(7%)	0.3(4%)	0.9(5%)	0.4(5%)

*Enrollments at the beginning of the school year.
**Dropout from the beginning of the school year.
***Zero children are usually not registered and therefore these

data cannot be confirmed in the school registers.

2.4.2 **Reasons for dropout.** Headteachers were asked to give the reasons for dropout and the most important they felt were transfer of parents to a new area of residence (27%), financial problems at home (20%), parental "negligence" and lack of understanding about the importance of education (9%), distance from school (5%), continuous long absences (5%), and a need at home for children to help their parents (4%). The individual classroom teachers concurred in their belief that these factors were important.

Studies in other countries have shown that teachers tend to emphasize home reasons for dropout, while parents, if asked, are likely to give school reasons for dropout. It is likely therefore that the reasons given in the present study for dropout were weighted toward home problems. In-school factors may also be important, but they can more easily be identified if parents are asked about the reasons for dropout.

2.4.3 **Reasons for repetition.** As noted above, repetition at some class levels and for some groups may be a more serious efficiency problem than drop out. Some of these children may have been repeating for a second or even a third time. One problem with repetition is--as a number of studies have shown, that children who repeat classes are more likely to become discouraged and drop out of school than children who progress through the system at the expected rate. In response to an open-ended question, teachers said that the main reasons for repetition were that children were weak in academic capabilities (35%), had been frequently absence (16%), had failed the fifth class exam (12%), had "negligent" parents not supporting the child's education (10%), were mentally deficient (8%). The teachers also said that sometimes the course was not completed (5%), or that parents ask to have their children repeat the year (4%).

2.5 **Teacher characteristics.** The Pakistani school system sets qualification requirements for the appointment of teachers that shows a desire to employ teachers with adequate academic and professional characteristics. In theory, at least, teachers are appointed on merit, using these minimum criteria and the highest academic graduating scores available. Lower standards are only justifiable, in theory, when teachers are not available in a locality. Other characteristics that might be important in identifying effective teachers are their experience, a mother tongue that is the same as that of their students so there is no difficulty in communicating ideas, and a preferably local origin where they need not travel long distances to schools and therefore might have a lower absence rate, and where they might know the children's parents and feel greater commitment to the quality of their teaching. It is probably also better that the teachers are not so old that they cannot meet the energy demands of the work.

2.5.1 **Teachers in the sample.** The sample schools had an average of 2.7 primary teachers, or, in the case of a 7 class school about one teacher for every 2 1/2 classes. One multi-class teacher was interviewed from each of the 64 sample schools about their personal characteristics, qualifications, experience and opinions and suggestions about teaching multi-classes.

2.5.2 **Personal characteristics (age, origin, language and absences.** Table 8 shows the sex, age, origin, languages and absences of teachers. In the sample, half of the teachers were male and half female as an artifact of the design. They averaged 30 years of age but ranged in age from 20 to 57 years. By far the largest number spoke Pashto (63%), followed by Hindko (16%) and Sereiki (14%). The majority of the students also spoke Pashto (64%), and this was also the main language used in instruction (58%). In general the first language of teachers usually corresponded with the first language of children with the one exception of Kohistani where students were more likely than their teachers to speak that language. In the majority (86%) of the multi-classes, the teachers spoke the same mother tongue as their students. Many (70%) used a local language almost exclusively in instruction.

Complaints about the absenteeism of teachers are common. Most schools are unable to provide a substitute teacher unless it is known that a teacher's absence will be of several months duration. Thus when a teacher is absent, the class is likely to sit and do very little. Most of the teachers came either from the local area (44%) or from a nearby location (22%) rather than from far away (34%). Female teachers were more likely to come from a distance than men, and teachers teaching more than 2 classes were twice as likely as teachers teaching 2 classes to live at a distance. This supports the picture of schools where teachers teach more classes as more difficult to staff than schools that have larger student enrollments and therefore more teachers teaching fewer classes.

Table 8: Personal characteristics by gender and number of classes

Characteristic	Teacher gender		No.of classes taught	
	M	F	2Cl	3,4Cl
Teacher age (years)	30	30	34	29
Origin				
Near school(%)	75	58	80	56
Distant(%)	25	42	20	44
Language match				
Teach.lang.				
Pashto(%)	63	63	60	65
Hindko(%)	16	16	20	12
Sereiki(%)	13	13	13	18
Kohistani(%)	9	0	7	3
Student				
Pashto(%)	59	69	60	68
Hindko(%)	16	9	23	3
Sereiki(%)	13	13	7	15
Kohistani(%)	13	9	10	15
Absence record (days)	5.3	5.4	5.3	5.4

The school system allows a very large number of permitted leaves to teachers, up to 37 (25 casual and 12 earned) plus a number of other liberal leaves. Medical leave of up to 120 days without a certificate, or 180 days with a certificate is permitted after two years service. There are approximately 238 school days in the year,[6] including exam days. If a teacher takes all the leaves permitted (not including medical leave) then he or she can be absent approximately 16 percent of the time or approximately one day every week of the school year.

From the self-reports of sample teachers, almost all the leaves they take are of the permitted kind. They claimed their own "permitted" absences totalled an average of 5 days (range 0 to 55) so far in the school year in which the study was conducted. Almost a fifth said they had not been absent at all. Most (98%) said they did not take any non-permitted leaves.

2.5.3 **Teacher qualifications.** Table 9 shows the qualifications

[6]These estimates are from the education officials in the Directorate of Primary Education. Primary school teachers estimates of school days in the school year varied but were considerably less than these estimates.

2.5.3 **Teacher qualifications.** Table 9 shows the qualifications of teachers in the different sub-samples. Overall, the majority of teachers were matric graduates (64%) or higher (33%). Only 3 percent--all female teachers, were less than matric. About the same number (48%) were higher second division graduates as were the qualitatively lower third division graduates (47%). A small group (5%) were first division graduates. The teachers teaching fewer classes were more likely to be second division (57%) than those with more classes (41%) or to be first division (7% to 3%). A full 56% of the teachers with more classes were the qualitatively lower third division. Again, smaller schools with fewer teachers appear to be staffed with teachers who have lower academic qualifications.

The majority had completed the PTC training (69%) or a higher training such as CT or BEd (11%). The rest (20%) were untrained. More female teachers were untrained (25%) than males (16%) and those teaching more classes more likely to be untrained (29%) than those with fewer classes (10%). A majority (67%) had received some inservice training.

Table 9: Teacher qualifications by gender and number of classes

Characteristic	Teacher gender		No.of classes taught	
	M	F	2Cl	3,4Cl
Years of academic				
Less than 10 (%)	0	6	0	6
10 years (%)	50	78	63	34
More than 10 (%)	50	16	37	29
Graduating level				
First-high (%)	6	3	7	0
Second (%)	47	50	57	41
Third-low (%)	47	47	37	56
Professional training				
Untrained (%)	16	25	10	29
PTC (%)	66	72	80	59
Higher than PTC (%)	19	3	10	12
Inservice courses				
No inser.training(%)	48	19	21	44
No.of courses (no.*)	1.2	2.3	2.3	1.3

*Number of courses of those taking inservice courses.

2.5.4 **Teacher experience.** Teachers may be more effective when they have more experience. Table 10 shows the teaching experience of different categories of multi-class teachers.

Table 10: Teacher experience by gender and number of classes taught

Table 10: Teacher experience by gender and number of classes taught

Characteristic	Teacher gender		No.of classes taught	
	M	F	2Cl	3,4Cl
Years teach.experience	8	8	10	7
Years teach.multi-class	5	7	7	6
No. of schools service	4	3	4	3
No.yrs.this school	3	3	4	3

Overall, half of the teachers were appointed in or before 1984 and on average had 8 years of teaching experience. Only a few (6%) had a year or less experience. There was extraordinary variety in their teaching experience with most having taught each class between Kachi though Class Four. Two-thirds had also taught Class Five and almost half had taught Zero Class. The teachers averaged 6 years of teaching multi-classes, and had averaged 3 years service in the sample school (range 1 to 13 though 25% had spent only one year in the sample school). On average they had served in 3 schools over their teaching careers (range 1 to 10). Teachers teaching fewer classes consistently had more teaching experience. It appears, then, overall that the multi-class teachers have had considerable teaching experience.

2.6 **Teacher opinions and suggestions about teaching multi-classes.** It is generally believed that conditions in multi-classes make them difficult to teach. Headteachers in every school said that multi-classes were more difficult than single classes to teach.

2.6.1 **Difficulties.** In an open-ended question, teachers reported the most important difficulties they faced in teaching these classes:

- o Insufficient time to teach the separate classes (21%)
- o The course is too lengthy (14%)
- o Individual attention is not possible (14%)
- o Discipline is difficult to maintain (14%)
- o One teacher cannot handle more than one class (12%)
- o Classes are noisy and students create disturbances (10%)
- o Inadequate physical space (5%)

The difficulties in teaching these classes may be reflected in the teachers' feelings of satisfaction with teaching as a profession. When multi-class teachers were asked if they liked teaching, male teachers (63%) more often reported high levels of satisfaction than

female teachers (47%), and teachers with fewer classes more often expressed a high level of satisfaction (70%) with teaching than teachers with more classes (41%). Overall, however most teachers (85%) said that they enjoyed teaching most or all of the time.

2.6.2 **Suggestions.** Teachers made a number of suggestions in response to an open-ended question about improving multi-class teaching. The most frequent suggestions were the following:

- o The course, syllabus, and textbooks should be made easier and reduced so that it would be possible to complete the expected work within the school year (38%).
- o The number of teachers should be increased to avoid multi-classes or to reduce the number of classes a teacher teaches (38%).
- o More space/shelter should be provided so classes could be located in separate rooms (19%).
- o Instructional aids which correspond to the course content should be developed and provided to teachers (17%).
- o The qualifications of teachers should be improved--to require more academic years and better training (8%).

A number of teachers suggested techniques that might improve teaching such as using more intelligent children to teach slow learners, giving writing work to one class while instructing other classes, setting up contests between classes, teaching though activities, etc.(27%).

On a 4 point scale almost half the multi-class teachers claimed that textbooks were only somewhat useful for the multi-classes; only 20% felt the textbooks were very useful. The teachers suggested that the textbook content should be reduced (19%), that the number of subjects should be reduced (14%), that teaching aids related to the instructional content should be provided (6%), and that a large number of practice exercises be included in the text. Teachers stressed the difficulty of math and English and suggested that these courses be made less difficult (9%).

2.7 **Classroom instruction as reported by teachers.** The teachers were asked questions about the practices they used in the instruction of multi-classes.

2.7.1 **Use of language.** The teachers were asked in two different ways about language use in the classroom. First they were asked generally about which language they used most in the classroom and almost three-quarters stated that they used a local language rather than Urdu. Then later they were asked to estimate the amount of Urdu they used in their classes. Some (22%) reported

they used no Urdu at all in teaching while others (11%) said they used Urdu for all their instruction. The rest estimated the amount of Urdu use as somewhere in-between.

2.7.2 **Use of instructional materials.** Materials are extremely limited in multi classes, and there is some debate as to how useful certain aids provided in the past have been. Almost all the sample teachers said they used blackboards frequently in teaching, and many claimed they used teaching kits (75%), and wall charts (71%).

2.7.3 **Use of students in instruction.** One way to extend the teaching time of an over-worked teacher is to use students to assist in instruction. A number of teachers said they used this practice, for example, using smarter students to teach slower students (92%), student monitors to lead class learning (58%), or older students to teach younger students (58%). The quality of this student teaching is probably low, especially when student monitors lead the chanting of the subject content. Nevertheless, the practice of using peers in teaching is one that can be improved upon for better results.

2.7.4 **Discipline.** Teachers were asked in an open-ended question to explain how they dealt with children who misbehaved in class. In perhaps more ideal than real response, teachers said they dealt "lovingly" with these children (20%), or told the child to behave properly (20%). Others said they punished the child physically (20%), or used harsh words (14%), gave the child repeated warnings (8%) or called the parents (8%).

2.7.5 **Dealing with slow learners.** Teachers were asked how they dealt with a child with low ability--a slow learner. The teachers responded that they would give the slow learner more individual attention (39%), seat him or her next to an intelligent child (29%), ask the child repeatedly to give him/her more practice (5%), or separate this child into a group with others having the same low abilities (5%).

2.7.6 **Homework.** Homework is an important way to extend practice, especially in multi-classes where children may not receive the level of instruction that they do in normal classes. Almost all (98%) the teachers said they assigned homework to their multi-class students.

2.7.7 **Teacher communication with parents.** The majority (80%) of teachers said they see the parents of children. The reasons parent come to school are largely for procedural purposes related to attendance or lateness (24%), or admission (13%). Other reasons include problems between children (13%), because parents are requested to come to school to discuss problems concerning the children (10%), or because of the loss of personal items (6%). The main "educational" reason is when parents come to see how well children are doing in their studies (18%).

2.8 Resources observed in classrooms.

Multi-classes were observed by researchers. The following resources were directly observed in these classrooms.

2.8.1 **Furnishings.** Not unlike most classrooms in the countryside of Pakistan, most multi-class classrooms have a minimal set of furnishings.

Seating. Most classrooms (83%) do not have student desks and chairs, nor perhaps are these pieces of furniture desirable given the advantages in these classes of being able to move children easily into different arrangements. Most children in rural areas sit on the floor in their homes, and therefore are not accustomed to nor do they expect desks and chairs in their classrooms. They do need, however, some kind of matting to insulate them from the cold and damp conditions of the schoolroom floors. In a few schools, matting is not available (14%); in others matting is present but not in sufficient quantities to serve all the children (25%), but in a large number of schools there is enough matting for all the children (61%).

Storage. Teachers feel uncomfortable about leaving anything of value in the school unless there is provision for locking it up overnight. Over three-quarters of the classes had lockable storage space (78%).

Teacher desk and chairs. Most teachers feel that a desk and chair are indispensable while they are teaching. They can lay the textbook they are using on the table which frees their hands for writing on the board. Chairs allow them to sit occasionally while remaining high enough above the students to see what each is doing. In most classrooms, teachers had desks (89%) and chairs (97%).

2.8.2 **Instructional aids.** Blackboards are perhaps the most used instructional aid provided to the classroom, after textbooks. Multi-class teachers often use separate blackboards to focus the work of different classes, and in some cases when they are moveable, they act as room dividers to separate groups of children. Blackboards averaged almost 2 per classroom and none of the classes were without a blackboard. Classrooms varied: some had one blackboard (39%), some two (58%), some three (27%); and some even four (4%). Many classrooms were equipped with the useful moveable blackboards (61%), and some with the even more useful double-sided boards (56%) where lessons can be left for review on one side, while new material is written on the other. Most researchers felt that the boards were in acceptable to good condition, but since many were unfamiliar with blackboards other than the standard ones provided by the Directorate of Education, they had little with which to compare the boards.

About half the classes had wall charts (59%)--usually a religious

poster, a map of Pakistan or sometimes a drawing of the parts of plants--most might be useful for one or two lessons during the year, or as a source for memory work. The charts were placed high above the children's heads where they could not be touched and were often difficult to see. About half the classes had a teaching kit available (56%), a syllabus (52%) or timetable (34%) telling what should be taught to the children and within which time frame.

In many classes the teacher borrowed a student's textbook to teach the class. In less than half the classes, teachers had their own textbooks (44%). Teachers receive such low salaries that they cannot afford to buy their own copy and using a child's copy means that child must share a copy with another.

2.9 **Class composition in sample classrooms.** The composition of primary classes--the class size, the number, character and combination of class levels, the age range and gender of the children, may affect the access to and quality of education in multi-classes.

2.9.1 **Class size.** It may be difficult to teach classes when there are large numbers of children. Table 11 shows the class size in the observed classrooms. Researchers reported a relatively small[7] average of 36 students in all the classes taught by a single teacher, but the numbers ranged from 6 to 114 in individual classrooms. Two-thirds of the teachers taught a total of 40 students or fewer.

Male teachers taught an average of 40 students and female teachers a smaller average of 32 students. The more classes a teacher taught the fewer the average number of students in the classroom: 2 (37), 3 (34), 4 (27) suggesting, as already noted above, that schools where teachers teach a larger number of grades tend to be smaller and perhaps more recently established.

[7]In a study of Kachi classes carried out at about the same time, and with a sample selected in a similar way, average class size was 72 students.

Table 11: Class size in observed classrooms

No. of students	No. of teachers	% of teachers
Between 6 and 20	21	33%
Between 21 and 40	22	34%
Between 41 and 60	11	17%
Between 61 and 80	5	8%
Over 80	5	8%

2.9.2 **Class levels.** Table 12 shows the classes taught by the teachers. The researchers were told to observe a first, second or third grade class,[8] so for that reason these classes are more heavily included in the sample.

Table 11: Classes taught by the observed multi-class teachers

Class	No. of teachers	% of teachers
Zero	8	13%
Kachi	19	30%
One	41	55%
Two	30	47%
Three	40	63%
Four	21	33%
Five	16	25%

2.9.3 **Number of class levels taught.** The greater the number of class levels, the more difficult it may be for the teacher to teach multi-classes. On average, the teachers in the sample taught approximately 3 classes each, but the number varied between 2 and 4 classes. Table 12 shows the number of classes taught by each teacher. Almost half taught two and slightly more than half taught more than two. The sample was selected to contain approximately half the classes where the teacher taught two classes and half the classes where the teacher taught more than two.

[8]Program improvement in NWFP is beginning with the early classes.

Table 12: Number of class levels taught by teachers

No. of class levels taught	Teachers teaching this number N.	%
Two	30	47%
Three	26	41%
Four	8	13%

2.9.4 **Number of children at each class level.** Table 13 shows the number of children at each class level in the observed classes. Again, as in the full school sample, it becomes clear that not enough children exist in any one class to justify the appointment of a single teacher. Lower classes tend to have more students than upper classes.

Table 13: Number of children at each class level in obs.classes

Class	Freq.in sample N	%	Avg.Enroll.* N (Students)
Zero	8	13%	13
Kachi	20	31%	18
One	36	56%	17
Two	30	47%	15
Three	42	66%	10
Four	17	27%	10
Five	15	23%	8

*Avg. enrollment where classes existed in the sample

2.9.5 **Class combinations.** Table 14 shows how classes were combined under single teachers. When classes are combined consecutively, presumably the age ranges of children are narrower. and, if classes skip sequences, the ages of the children are likely to differ more widely. In the case of the latter, this might mean less common content in the course material presented to the children. At the same time, teachers might more usefully employ older-younger peer tutoring or mentoring techniques. Both class situations exist, and it is not possible to find any single consistent pattern in the way classes were combined in the sample.

Table 14: Combinations of classes taught by observed teachers

Class combinations	No.of teachers	% of teachers
Consecutive		
Lower (Z-3)	17	27%
Upper (3-5)	5	8%
Skipped classes	23	36%
Mixed (some conse./ some skipped)	19	30%

2.9.6 **Age range.** It is difficult to teach when the age range of children is great. Table 15 shows the age range of children in the observed classes. On average a class contained children with ages spanning 3.5 years, assuming the normal case of one year per class level. More than half of the classes contain children who span four or more years in age.

Table 15: Age range of children in observed multi-classes*

Age spread (years)	No.of classes	% of classes
Two	16	25%
Three	15	23%
Four	17	27%
Five	14	22%
Six	2	3%

*Assuming one year per class level

2.9.7 **Gender.** If coeducation were possible in the primary years instead of separate schools for boys and girls, construction funds might be freed in some villages to build schools with more classrooms, as suggested above by the teachers. Even though all the sample schools were officially designated either for males or females, a number of the multi-classes observed by researchers contained children of both sexes. Table 16 shows the ratio of each class level where children of both genders are found. The proportion of mixed classes in the early years is higher than in later primary, but all class levels have some mixed classes.

Table 16: Gender of children in observed multi-classes

Class	Classes inclu.this class N.	Mixed classes N.	%
Zero	8	2	25%
Kachi	19	8	42%
One	41	9	22%
Two	30	5	17%
Three	40	5	13%
Four	21	3	14%
Five	16	2	13%

2.10 Instructional practices observed in classrooms

Researchers were asked to observe a multi-class from each school during one day (following a day of becoming familiar with the school, interviewing teachers, and explaining the purpose of the study). The fact that an outsider was present most certainly affected the teachers' performances. The following findings therefore should be taken as the best teaching the teachers were capable of performing.

There were 255 lesson observations in all. Only one class of the multi-classes was observed. and this class was always one of the three lower grades--first (21%), second (24%) or third (52%).[9] The observed teachers, however, were teaching other classes as well as the focal class.

The observers were asked to observe four subject lessons of each teacher, where possible: Urdu and math and science and social studies. In all, the observed lessons included math (26%), Urdu (28%), local language (6%), social studies (16%), science (15%), and others (9%).

2.10.1 **Teacher activities.** Usually the class teacher was the main person responsible for teaching the class (91%). However in a number of classes (30%), a student monitor was used to lead the class for a portion of the time. Mostly this monitor was used less than half of the time (93%).[10]

[9]These are the classes for which the initial instructional materials and teacher training will be developed under PED.

[10]In the Kachi study, student monitors were used to direct instruction for much more of the time. The Kachi classes were also two times the size of the multiclasses in this study and therefore the teacher may have needed more help. Kachi instruction usually

The teachers usually were helping the children with practice (80%), supervising seatwork (80%) or explaining the lesson content (86%). Less often they were reviewing known work (46%) or assigning homework (45%). The most common source or model for parts of the lesson came from the teacher speaking (97%) or from a textbook (95%). Other important sources included a teacher writing something (67%) or asking for children to recite previously memorized work such as passages, poems or times tables (31%). Teachers probably increased the time when they were actively directing instruction because of the presence of the observers. They appeared to feel that active involvement or asking children to show previously memorized work made them appear to be "better teachers,"

2.10.2 **Student activities.** The students spent time during the lessons, listening to the explanations of teachers (in 98% of the lessons), answering teacher questions (82%), reading out loud (82%), repeating passages, letters, and numbers (63%), practicing writing (60%), copying some previous work (49%), taking quizzes (26%), or working alone on assignments (20%).

Some student activity in the classroom related to personal needs. For example, in some classes children left the class to drink water (28%), go to the toilet (36%) or wash takhtis (11%) during class time. They were usually not allowed to eat or given any kind of break during class.

2.10.3 **Feedback.** Research suggests that students do better when they feel that they can successfully complete school work. Therefore, the kinds of feedback teachers give to students can be important both in reinforcing correct practice and in making the children feel good about their capabilities.

In general, teachers positively reinforced the students when they answered correctly. For example, in instances when children answered correctly in the observed classes, many teachers repeated the correct answer (80%), or asked the student how he or she came to the answer (78%) or praised the student (61%). Few simply ignored the student and went on to the next question (12%).

When students answered incorrectly the response was less positive in terms of reinforcing the child's feeling that he or she could successfully complete the work. Teachers responded with a great deal of variation even within the same lesson. On the whole, however, teachers were more likely to respond negatively: to break in and give a correct response (84%), or say the answer was wrong (66%) or ask another child to correct the answer (58%) or punished

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consists of the rote memorization of letters, numbers and multiplication tables which lends itself to the use of more mechanical direction of classroom learning.

the child with harsh words or a beating (3%). Providing more positive reinforcement were the teachers who simplified the question and asked the student to try again (73%). In general, positive forms of providing feedback are within the instructional repertory of teachers, and might be used more frequently if teachers understood the implications of using different ones.

2.10.4 **Calling on students.** Any practices which are repeated again and again in the classroom have implications for who learns and what they learn. Teachers often have a system for calling on students that they use routinely. If they call on only some of the students, then only these students may be given practice. In general the researchers were unable to find much bias in the way teachers called on students in the sample classes (81%). In a few classes, teachers called mainly on students who raised their hands the most (8%), and in the rest there were individual variations worked out by teachers (9%). In training it might be useful to help teachers understand the implications of all the repetitious practices they use--and in the case of calling on students, help them balance the need for coverage, against the need for a spontaneity which keeps all students attentive.

2.10.5 **Monitoring.** If used properly, seat work assignments give teachers a chance to see how well children can do a new skill on their own, and gives them some time to work individually with children having difficulty. In the sample classes where seatwork was assigned, many of the teachers walked around the room and observed or helped the students (80%); or responded with help to those who asked for it by coming to the teacher or raising their hands (7%). A few simply ignored the students (5%). The rest had other means of supervising seat work (8%). Again, training might make explicit how teachers could use this time most productively.

2.10.6 **Control.** Teachers complained (see above) that discipline was sometimes a problem in multi-classes, especially when a teacher's attention was turned to other classes. Most teachers controlled behavior in the observed classes by telling children to behave (85%) but a few (5%) used physical forms of control. The rest instilled rules in the children so that they were orderly without any visible necessity for the teacher to control them (7%) or had other methods of control (10%). In general the observers thought the teacher behaved in a kindly manner with the students (69%). Fewer felt they were firm (26%) or harsh (5%). Again, the presence of the observer is likely to have had an effect on how teachers treated the problem of discipline in these lessons.

2.10.7 **Language of instruction.** Teachers were more likely to use a local language for instruction (71%) than Urdu (29%), and children also were more likely to use a local language in responding (79%). This indicates how important it is for a teacher to speak the local language if they are to communicate well with primary children. The teachers in this sample seemed well-matched

linguistically to their students. In 88% of the multi-classes, teachers either had the same mother tongue as the children or could speak that language.

2.10.8 **Teacher time allocation.** In general, teachers rarely divide their time equally between classes. Some find it easier to work with higher classes and therefore spend more time with these classes; some take more time with classes that need more practice. Observers estimated the time during a lesson period that the teacher spent with classes other than the ones being observed. In about half the classes, the observers felt that the teacher spent less than half the time with other classes, and in about a quarter, no time with the other class. The large proportion of time spent with the observed class during subject lessons may have reflected the extent to which teachers felt they needed to be actively directing learning to appear as if they were "teaching" to the observers.

2.10.9 **Seating arrangements.** One concern in multi-classes is how best to arrange the students in the classroom so there is the least amount of distraction for each class. Teachers used a variety of ways of seating children. The most popular method was to seat different classes in separate rows either horizontally or vertically facing the "front" of the classroom (31%). Other teachers seat children in different classes so they face different directions and so are less likely to become distracted by the teacher's instruction to another class (21%). Others place classes in different classrooms or in different areas around the school grounds and alternate instruction between them (18%). Some group children in the front or back of the classroom (13%). Other methods of seating children are used more infrequently (16%). The variety in seating arrangements suggests no way is clearly better than another for all types of multi-classes.

2.11 **Supervision.** The quality of primary instruction is supposed to be enhanced by outside supervisors checking on the performance of the teachers. As noted above, supervisors frequently helped to decide whether primary children should be promoted to higher classes, especially from Class Five to the next educational stage. Almost all (97%) the headteachers reported visits from supervisors. On average there were about 3 visits per school from the beginning of the school year, though the number of visits ranged from 0 to 18. Supervisors checked attendance (98%), tested the achievement of students (97%), offered teaching advice (100%) and checked supplies and furnishings (94%).

3 IMPROVING THE QUALITY OF MULTI-CLASS INSTRUCTION

Though this report was intended primarily to describe conditions in multi-classes, there was also an attempt to identify and support effective means of improving the quality of the academic program. The study did this in four ways:

o by developing and giving preliminary testing to performance measures that might provide a means of assessing program outcomes;

o by identifying teacher and student characteristics and activities that are associated with higher performance measures;

o by examining implicit supervisor criteria for assessing the quality of programs to identify present expectations;

o by training a network of those district officials responsible for academic quality in the basic skills of observation and data collection they will need if they are to carry out a program of academic improvement (see Annex D for participating individuals).

The following section reports the results of some of these efforts.

3.1 **Measuring "quality."** "Quality" is difficult to measure for many reasons, the most important often being the lack of a clear agreed-upon definition of quality. In most school systems, the definition should include socialization characteristics as well as academic objectives. Academic outcomes are usually easier than socialization objectives to define and measure, especially if they can be tied to curriculum objectives. They are traditionally measured by achievement tests. In NWFP, there are no standard achievement tests currently available, and national tests that exist (developed with World Bank assistance) are designed for Classes Four and Five only.

However, it is important to find some acceptable indicators of program "quality" independent of the subjective opinions of those involved in carrying out primary school programs.

3.1.1 **Student engagement and teacher performance scores.** For practical reasons, the study has concentrated its efforts on assessing academic performance. A student engagement measure was developed as a proxy for academic outcomes of the program.[11] The use of this measure assumes that the more time students spend engaged in instructional tasks, the more likely they are to learn what the teacher expects them to learn. At periodic intervals, observers made simple counts of the number of students engaged or not engaged in the learning tasks assigned by the teacher. At the same time the observers noted whether the teacher was actively involved in teaching that class or whether he/she was busy doing something else. The researchers also noted what teaching activity he or she was doing during that interval, and what instructional

[11]Many of the students in the study were in the early primary years where it is difficult for strange researchers to impose direct achievement tests.

tasks the students were supposed to be engaged in. The presence of an observer almost certainly kept the percentage of those engaged higher than normal since both teachers and students were doing their best to seem attentive to their work. However, it is unlikely that teachers can change normal teaching/ learning routines entirely even when trying to impress a visitor.

A teacher performance score was compiled from the total observations of students engaged in the class of each sample teacher. The strength of the score as an unobtrusive measure of achievement was supported by a consistently larger proportion of higher scoring teachers using practices that other studies have associated more directly with achievement scores (see below).

3.1.2 **Other criteria for assessing quality.** In NWFP, supervisors are given the responsibility of overseeing the quality of the educational program. It is important to know how supervisors understand this responsibility and how they assess "quality" in a program. In this study, supervisors were asked to rank schools before the sample was selected. The purpose was to ensure a range of multi-classes by local criteria for quality. By studying the differences in the high and low ranked schools, it was possible to identify some of the characteristics that supervisors find important in defining a good and poor quality school.

In general, it seemed that the supervisor-ranked higher schools were more similar than different when compared with the lower ranked schools on most of the variables one might expect to be associated with academic learning in the study. For example, teacher residence location near or far from the school, number of years of academic training, graduating scores, level of teaching satisfaction, days teachers were absence, number of classes taught by a single teacher, and person responsible for the class were all about the same in both high and low ranked schools. In addition, teachers in the supervisor-ranked high and low schools were very similar in the extent to which they used "effective practices," suggesting little difference in academic outcomes.

When the teacher scores, based on assumptions about academic learning, were compared for supervisor high and low ranked groups, they were identical for the two, signifying no relation at all of supervisor ranking to the teacher performance measure. If there were significant differences in academic quality in the two samples, one might assume that there would be differences in at least some of the indicators that have been tentatively associated with quality in other studies conducted in Pakistan and elsewhere. Instead very few of these indicators differentiated the two school samples.

If the supervisors are not judging the quality of schools by academic criteria, then what are the criteria by which they judge them? Clues to the criteria may be found in the characteristics

which vary in the supervisor high and low ranked samples. For example, urban schools were more likely to be ranked higher than rural schools. Schools were also ranked higher when they had larger student bodies, when they were complete schools to Class Five, when they had larger numbers of teachers, as well as when classes were of larger size. The high-ranked schools had more available facilities such as drinking water, toilets, or playgrounds. The high-ranked schools were more likely to have a larger portion of PTC trained teachers, a factor that in other studies has shown little relationship to academic performance in Pakistani schools.[12] The teachers in the high ranked schools were more likely to have taught in the same school for longer, giving these schools more stability. Classes in high ranked schools were more likely to be sheltered, to have classrooms filled by students and therefore more crowded, and to be sufficiently supplied with sitting mats for all students--all evidence of better equipped schools. These results suggest that the factors that matter most to supervisors are ones which relate to visible, material aspects of schools.

There may be several explanations for why the supervisor rankings showed so little relationship to the teacher performance-ratings used in the study. First, the supervisors were asked to evaluate the quality of the program at the school level, and perhaps there is little direct relationship between the school context and specific teacher's performance. This is less likely to be true, however, in multi-class schools where a small number of teachers teach the same children for a number of years, and become more closely identified with the school's instructional program.

Second, as already noted above, the supervisors may be basing their evaluations on non-academic criteria such as the impressiveness of the headteacher, the personality of the teacher, the adequacy of the facilities, the cleanliness of the school grounds, discipline, and organization--characteristics which have not been strongly emphasized in the data collection of this study. The teacher performance score stresses academic learning rather than the material characteristics and personal characteristics supervisors may value more.

Third, supervisors may not have collected the kind of data previously that allows them to make reliable assessments of student learning--they may not know how to collect this information or even what kind of information is relevant to collect for accurate assessment of academic outcomes. Finally, it is possible that the formula for good teaching--having children memorize and recite textbook content, is so narrowly prescribed that teachers and supervisors believe other factors are more important in determining a program's quality. In interviews, education officials have often

[12] In BRIDGES studies and in this study using the teacher performance score as a measure.

indicated that they believe the critical determinant of quality is the kind and adequacy of material facilities.

It may be useful for supervisors to know what they might look for in assessing the effectiveness of the academic program in multi-class schools. The following section reports indicators identified from the study that may be associated with higher levels of academic learning. This section is not meant to deny the importance of social and personal objectives in an educational program, but at present these "other" objectives are still largely implicit in the system, and need to be better defined if they are to be measured accurately.

3.2 **Factors associated with academic performance.** The following factors appeared in the study to be associated with higher levels of learning [13] in sample multi-classes, as they are currently organized.

3.2.1 **"Effective teaching practices."** High-performing teachers in the study were more likely than low-performing teachers to use "effective teaching practices" identified in the Pakistan BRIDGES study and in other studies from other countries.[14] These practices, which comprise a set of systematic steps emphasizing practice of a new skill, seem well-adapted to the teacher directed and formalistic type of learning expected in Pakistani classrooms. Table 17 shows the association of teacher performance with the core "effective practices."

With the exception of "presentation" where teachers explain or demonstrate new work or concepts, considerably more of the high-performing teachers were likely to use each of the effective steps than low-performing teachers.

Though not shown in the table, teachers with only two classes were also more likely to use more "effective practices" than teachers with three or more class levels. In order to save time, a number of the teachers with more classes seem to skip a step or two (and also probably to cut down on the time used for each step) in the systematic sequence of instruction shown here.

Table 17: High and low performing* teachers' use of practices

Practices	High Performing %	Low performing %

[13]Degrees of learning are defined by levels of student engagement.

[14]See Rosenshine, B. V. "Synthesis of Research on Explicit Teaching." **Educational Leadership**, April 1986:pp. 60-69.

Table 17: High and low performing* teachers' use of practices

Practices	High Performing %	Low performing %
Review	54	28
Presenting new material	88	82
Guiding children's practice	86	64
Independent practice	88	64
Homework	55	22

*High performing teachers were those who, on average, kept 75% or more of their students engaged during the observations. Low performing teachers kept less than this ratio of students engaged on average.

3.2.2 **Teacher's direct involvement.** The teacher's active involvement in directing the instruction of classes appears to be importantly associated with the level of student learning. In the observed classes, when the teacher was directly involved with the class, in a large number (75%), a high proportion (75%) of students were engaged and in only a small proportion (6%) were fewer than half the class engaged. When the teacher was **not** directly involved with the class, only a small proportion (27%) of classes had students with a high level of engagement, and in almost half (42%) of the cases, half or less were engaged. These findings suggest that learning in primary classes is highly dependent upon the teacher's involvement in directing instruction.

For multi-classes, this is a problem since the teacher's time must be divided between two or more classes. For example, the study found that teachers teaching two classes were able to keep more of their students engaged more of the time than teachers teaching more than two classes. Barring the possibility that enough teachers could be provided to teach one class each, this finding suggests that instructional tasks and materials need to be developed that keep children engaged on their own without constant teacher involvement.

3.2.3 **Tasks that keep children engaged.** Because more of the students of high performing teachers sustained an engagement in instructional tasks, it is important to see if there are differences in their task assignments that may account for the differences in engagement. The variable of teacher personality and

charisma is not represented here and may, of course, account for some of the difference.

Table 18 shows the tasks assigned to students by high and low performing multi-class teachers. The table shows that the high performing teachers were more likely than low performing teachers to assign more of the various instructional tasks that are generally found in these classrooms. This suggests that variety is a key to holding the attention of children. Since the observations comprised full class lessons for both groups, this indicates also that high performing teachers probably ask children to spend less time on each task and therefore keep up a faster pace of activities in their classes. Probably these findings simply confirm the common sense principle that good teachers observe their students carefully and when they see their attention flagging, turn to a new task that revives their interest.

Table 18: Tasks assigned by high and low performing teachers'*

Student tasks	High Engagement--Teachers--Low engagement %	 %
Answering tch. questions	84	76
Reading	86	74
Practicing writing	72	36
Copying	59	26
Repeating passages/ numbers/letters	68	53
Independent assignments	25	9
Listening to teacher	99	96
Non-instructional	3	8
Taking tests/quizzes	31	14

*High performing teachers were those who, on average, kept 75% or more of their students engaged during the observations. Low performing teachers kept less than this ratio of students engaged on average.

Teachers teaching two classes are about as likely as teachers teaching more classes to assign the same tasks found in the table. There were three exceptions: the teachers teaching two classes

were more likely to ask children questions about the work and to give quizzes than teachers with three or four classes, while the latter were more likely to ask children to work on assignments independently. Again these differences probably represent a difference in the time available to teachers to work directly with their classes.

Observations in classrooms brought out the importance of assigning independent tasks to children in such a way that there was some **contingent** behavior required, that is, when the teacher's attention returned to this class, the children were expected to show some product they had accomplished in the meantime.

3.2.4 **Teacher activities that keep children engaged.** There were few teacher activities, outside of the "effective practices," that could be associated with any degree of confidence with the higher engagement of students. The three most important were the teacher offering explanations or demonstrations of the lesson content of the textbook, the teacher writing something on the blackboard, and the teacher maintaining a close supervision over seat work. Students were also found to be more attentive when the teacher used a local language in instruction than when they used Urdu and, of the various subject matters, they seemed least attentive during social studies instruction.

3.2.5 **Other factors associated with high performance teachers.** A few factors in the characteristics or surroundings of teachers appeared more often to be associated with high-performing teachers compared to low-performing teachers. These factors may therefore contribute to academic outcomes.

One factor was the higher academic graduating scores of high-performing teachers. These scores may stand as a proxy for the better academic abilities of these teachers. High-performing teachers included 6% first division (all in the sample), 51% second division graduates and 42% third division graduates, compared with 0%, 43% and 57% for the lower-performing teachers. NWFP is currently trying to select teachers, as much as possible, from candidates with higher scores,--from first and second division graduates, which this finding supports as a good policy if learning is to be improved in primary classes.

The classes of high-performance teachers were also likely to have more students in them than those of low-performance teachers, but this indicator may disguise the fact--as another finding above indicates, that the more class levels the teacher teaches, the smaller the number of total students the combined classes are likely to contain. The critical variable is more likely the number of class levels a teacher teaches. Over half (53%) of high performing multi-class teachers teach two classes, while one-third of low-performing teachers teach only two classes. This is consistent with the difficulty teachers appear to have in keeping

children engaged when they must turn their attention to other classes and cannot be involved as much of the time in directing their instruction.

A few other indicators showed weaker relationship. The higher-performing teachers experienced more supervisor visits, were younger in age, and were more likely to have their schools located in urban as opposed to rural environments. In the case of the latter, urban schools also tended to have more teachers teaching fewer multi-classes.

A considerable number of additional indicators did not appear to be associated with higher performance: years of academic training,[15] the presence or absence of professional training, whether or not the teacher had participated in inservice courses, the number of years of teaching experience, and the number of days that a teacher was absent.

3.2.6 **Summary implications.** The findings in this section suggest the following main actions that can be taken to improve the quality of instruction in multi-classes:

- o reduce the number of class levels a teacher teaches to two at most, where there is enrollment enough to make it feasible;
- o develop instructional materials that are not so teacher dependent, and are interesting enough to keep children engaged in useful skill building;
- o train teachers in the use of "effective practices" and in the more effective management of instructional time, including the kinds of tasks that hold children's attention when the teacher is not present.

[15] A BRIDGES study by Warwick et al found that teachers' longer academic training was associated with higher levels of student achievement. The BRIDGES study, however, was conducted among Class Four and Five students where a more difficult subject content might make the longer academic training of teachers an advantage. The findings presented in the current report come from observations in Classes One, Two and Three where the subject content is less likely to pose a problem for teachers.

ANNEX A

DESIGN

The multi-class study is comparative, intensive and limited to a small number of classrooms in each district. Half the districts of NWFP participated in the multi-class study (and half participated in a Kachi study). Proformas were simple and systematic to meet the requirements of multiple users and the need for similar coverage in all sample schools. They allowed, however, for training in a number of data collection techniques, including interviewing, observation of teaching behaviors and assessment of student engagement in learning. Two of the proformas are appropriate for use after the study by supervisors to evaluate and suggest improvements in classroom teacher performance. The researchers who collected the data were local learning coordinators and supervisors who are responsible for the quality of academic performance. Overall responsibility for the research in each district rested with the Assistant District Education Officer for (Inspection) Academic Affairs who was given training in the issues and purposes of the studies. Followup after the study will involve these officials and researchers. They will be given the results of the studies and will take part in discussion about the implications of the studies. Policy makers in Peshawar will develop action plans based on the results and the field staff who have taken part in the study will implement the results.

Steps in conducting the study

1. Responsibles meeting. In the beginning of September, the ADEOs and the ASDEOs on the male and female sides from 7 districts assembled in Peshawar for training. They were asked to bring a list of the schools in their districts. The one day training session included:

Discussion about multi-class issues, and airing of the way these issues are manifest in each district

Discussion of the role of these officials in relation to field studies, programs to improve quality, etc.

The purposes and anticipated uses of the studies.

Selection of a sample of schools from each district for the study

Agreements about arrangements for field work
- dates
- researchers required
- logistics including transport

supervisor (ASDEO) responsibilities

2.Supervisor training. The ASDEOs remained in Peshawar to take a three day practical training in how to conduct classroom data collection. They were given practice in using proformas in schools until they become comfortable with them. Their training schedule was performed exactly as they were expected to train the supervisors/learning coordinators in the field. This system of training the ASDEOs in an innovative practice and having them transmit this training to supervisors/ learning coordinators is the system that will be used in the Directorate to support the adoption of any new learning materials or teaching practices. The multi-class study in half the districts and the Kachi study in the remaining districts are serving as a vehicle for setting up the initial stages of this system in NWFP.

3.Researcher training and field work. When the ASDEOs returned to their districts, each trained 4 LC/supervisors, 4 on the male side and 4 on the female side. Their training program was the same as that experienced by the ASDEOs in Peshawar. They were sent to the schools in teams of two to spend 2 days in each school. The teams completed the work for their district in a week--that is with each of the 4 teams covering two schools. This training was observed by Primary Directorate consultants in a few districts to ensure the quality of the training.

ANNEX B

MULTI-CLASS OBSERVATIONS

The following are descriptions of multi-classes provided by one of the observers.

Observation 1

This observation was conducted in a primary girls' school of NWFP. The school was ranked very low in academic quality by the supervisor and, indeed, it was probably the school with the lowest academic quality seen in the study.

The school was located in a rural village some 20 kilometers from a major town in a subdivision of a far-flung district. The team of observers and a consultant from the Directorate of Primary Education climbed a steep hill to visit the school site half way up the mountain in a clearing.

The school gate opened into a small yard, with a two-room school and covered veranda. One room had two charpois, and a small table. This was the residence quarters of the two teachers who worked in the school.

The other room provided space for the entire school. Children of all different ages filled less than half the space. The classes comprised Kachi through Class Four and had a total student enrollment of 29 according to the register.

One teacher taught Kachi, Pakki, and Class Two; while her sister taught Classes Three and Four. There were two sanctioned teachers for this school but only one was present. According to the ASDEO, the other teacher, who was PTC trained, was "mental" which the observer took to mean "under stress" or "suffering from some nervous disorder." In any case she was home on medication. Her home was in a town in another district.

The teacher who was present, was her sister. She was Middle Pass only. The teacher had set a table covered with a table cloth, and three chairs in anticipation of the visit which she expected because she had been interviewed by the researchers on the previous day. When the researchers came, the teacher greeted them, and stayed with them instead of continuing with her work. The researchers explained to her that they came to observe, and wanted her to carry on as usual. The SDEO then asked her to conduct her class outside on the veranda because of the strong smell of the unbathed children in the classroom.

There was some commotion among the children when they were asked to move outside, and the SDEO explained that the children refused to obey the teacher, and that if she exercised disciplinary measures, the children would leave the school. Finally, the children came outside.

The children sat in a group. A row of four older girls formed Class Two, which according to the register had nine students. The teacher claimed that the other members of the class were out in the field collecting cattle feed.

In the other row, a group of young girls of about six and seven, sat holding their siblings, who were toddlers. The whole school including the toddlers did not exceed twenty children. The children were not in uniform. None of them had either books nor takhtis.

The teacher started the lesson by writing a poem of three stanzas on the board. Then she asked the girls to recite the poem, but there was no response from them. The teacher spoke to them again, but the children replied that they would not do it. The teacher erased the board, disappeared into her bedroom and returned after a while with a book in her hand. She handed the book to one of the children in the alleged second class and asked her to read. The selected student behaved defiantly toward the teacher in her manner and tone of voice. The SDEO explained that the teacher was helpless; if she angered the children, they would stone her.
There was a long pause when nothing happened. Then the teacher began to write numbers on the board arranged in columns with a multiplication sign attached to each set, then she proceeds to add the figures on the knuckles of her hand and to supply the answers to what turned out to be addition exercises despite the multiplication symbol. There was no involvement by the children in this activity; the children were occupied in talking with each other.

Then all the teacher's activities came to a complete stop, she stood helpless, looking at the researchers and shrugging her shoulders. It was obvious that the class had come to an end. One researcher, curious to find out how young children could frighten an adult and what they would actually do if the teacher were to exercise her authority, put numbers one to five on the board and asked the children to read them out loud. The children knew the numbers by rote. The researcher erased number three and asked the girls to supply the number, but no one in the class could do so. The researcher asked if they could write number three; again no one could do it. So the researcher wrote the number three and asked a second grade girl to copy it. She made a wiggle which had no resemblance to the number. Finally, the researcher formed a dotted number, and asked the defiant girl to trace it. She even had difficulties in tracing the number.

These were older children; they seemed willing to learn; they had

come to school but they had not learned much. They seemed ashamed of their ignorance, and were not willing to expose themselves in front of any strangers.

Observation 2

This observation was conducted in a government primary boys' school in a rural, far-flung district. This school was ranked as a good school by the supervisor.

The school gate opened into a large open yard, lined with trees that provided shade and shelter for the children. This district was characterized with hot summers, and rainy winters. A flowering garden lined the veranda of the school. The yard was well maintained and clean.

The school was a two-room building, with rooms that were clean and neat. Both rooms were used for instruction: one room accommodated Classes Zero, Kachi, Pakki, and Class Five. Classes Two, Three, and Four occupied the other room.

The school had a mixed enrollment of boys and girls. The total number of children in the school was 51, distributed as follows: Zero Class 10, Kachi Class 11, Pakki Class 12, Class Two 3, Class Three 3, Class Four 6, and Class Five 6.

The school had two sanctioned teachers: the headmaster was an experienced teacher, and the second teacher was fresh from PTC training. The headteacher lived next door to the school, with only a wall separating the school from his home. He regarded the school as an extension of his home and, as a result, he made sure that the school building was well maintained, the school premises were kept clean and neat, and the yard and garden were well tended.
He attended to his duties regularly, and had not been absent from school since the beginning of the year.

The students came form the neighborhood, and the school formed one large extended family. The headmaster obviously enjoyed the trust of the community, parents sent their daughters to a boys'school, although it was one of the most conservative areas in the province.

Children sat in rows, with the Zero Class at one end of the room, and Class Five at the other end. The teacher had devised a system which worked efficiently and kept the children occupied all the time. He stood in front of the room, and the first group of children, the Kachi Class, came forward and formed a circle around him. He worked with this group. The children in Zero Class listened attentively. In the meanwhile, the Pakki children were getting ready for their turn. They reviewed their lessons by moving over and curling up next to the children in Class Five, who helped them

with their class work. The Kachi children, then, returned to their places with instructions as to what to do next. There was a bustle of activity, while the Zero Class moved into the circle around the teacher, and the Kachi Class children got their takhtis (writing boards), kalam (pens), and dawat (ink pots) ready.

Then the Kachi children took their takhtis and kalams to the children of the fifth class who lined up the takhtis for them so they could practice writing letters. In the meanwhile, the Zero Class children were reviewing the previous lesson, and had learned a new lesson. They were back in their places; and the Pakki Class had moved into the circle ready to recite their lessons. Fifth class children were writing letters for some Kachi children who had difficulty doing so by themselves. The teacher was free then to turn his attention to the Fifth Class, who were ready to start their lesson.

It was a well-managed class; no child sat and waited for the teacher. Older children were well-trained in helping the younger children. They sharpened their kalams, give them dawat if they did not have ink, they lined up their takhtis, they wrote letters for them to copy, and they listened to them recite and corrected their mistakes. In short, they were attentive to their needs. It was a nurturing environment where children learned much more than reading and writing. They also learned to care for each other.

ANNEX C

TEACHER AND STUDENT ACTIVITIES IN MULTI-CLASSES

Researchers were asked to describe the main activities of teachers and students in the lesson periods they observed. The following are selected examples from these descriptions.

1. The teacher explained the concept of "country" and asked the children to write their understanding of this concept on the blackboard. He corrected their mistakes with the help of other students. The other two classes of students were occupied with assignments given by the teacher. Next the teacher explained the concept of "national flag" and asked questions about the meaning of different colors of the flag. He asked questions to Class One according to their capability and had the other students clap when a student gave a correct response. Then the teacher had the students write in their notebooks all they had learned in the lesson.

2. The teacher asked the students of Class Three to look at some multiplication questions. After explaining these questions on the blackboard, the teacher gave them two similar problems to solve on their slates. Then he taught Urdu to Class Five while the Class One students recited their old lesson out loud. After finishing Urdu with Class Five, he asked Class One to recite their Urdu lesson.

3. The teacher asked Class One to open their social studies notebooks and read the lesson on "earth's level" but they were weak in this lesson, since they were still on page one. He asked them to continue to read, while he turned to Class Four. The children had memorized their lesson and were asked to recall it one by one. The students were then given homework. The teacher turned to Class Five and explained the meanings of a number of English words. The students were asked to memorize the spellings and then were given practice in reading full sentences. Finally they were told to write English sentences.

4. The children of Class Two were writing on their takhtis. The teacher presented the lesson on insects to them with the help of flashcards. After giving examples of insects the teacher asked individual students to identify insects. The teacher then went to Class Five in the next room and asked them to do some math problems. When the teacher returned to Class Two, he showed them some flash cards and pictures and assigned them homework.

5. The teacher asked the Class Two children about Allama Iqbal, the poet. Then he presented a summary of the lesson. The teacher wrote the meanings of difficult words on the blackboard and the children had to write them in their notebooks. Class Three was kept busy listening to a student monitor who explained the Urdu lesson. The teacher then wrote the numbers from 1 to 20 on the blackboard for

the Kachi students. Each child had to individually read the numbers. The front row students read as directed by the teacher but the back row students continued to write on their takhtis.

ANNEX D

LIST OF THOSE PARTICIPATING IN THE STUDY

We would like to gratefully acknowledge the help of a large number of people who contributed to the study by their helpful discussions of multi-class issues, the field testing of the questionnaires, the logistics of the study or by their help in collecting and analyzing the data.

Special thanks should go to Saeeda Lodhi (Additional Director for Curriculum and Teacher Training), and Zahida Shah (Deputy Director for Curriculum and Teacher Training), Mona G. Habib, Jamshida Khan and Tom LeBlanc (Consultants to the Pakistan Primary Education Development Program), and Mohammad Sadiq Siddiqui and Anwar-ul-Amin (researcher assistants).

The following participated in a meeting in Peshawar on September 15 to discuss multi-class issues and to plan the logistics for the multi-class study.

Name	Designation
Miss Aqeela Naz	ADEO (F) Charsadda
Ms.Qamar-un-Nisa	ADEO (F) D.I.Khan
Ms.Mumtaz Begum	ADEO (F) Swat
Ms.Rukhsana Jamil	ADEO (F) Bannu
Ms.Zakia Begum	Dy.DEO (F) Nowshera
S.Haleem Shah	ADEO (M) Mansehra
Zakirullah	ADEO (M) Charsadda
Mohammad Nazeer	Dy.DEO (M) Nowshera
Mohammad Bakhsh	ADEO (M) D.I.Khan
Roghan Shah	ADEO (M) Mardan

The following persons were present in Peshawar from Sept.15 - Sept. 18 in the workshop to learn how to train data collecters.

Name	Designation
Ms.Rashida	ASDEO (F) Mardan
Ms.Tahira Narjis	ASDEO (F) D.I.Khan
Ms.Nusrat Tehseen	ASDEO (F) D.I.Khan
Ms.Razia Sultana	ASDEO (F) Charsadda
Ms.Zuhra Sikandar	ASDEO (F) Swat
Ms.Zeenat Mahal	ASDEO (F) Swat
Ms.Naseem Akhtar	ASDEO (F) Nowshera
Ms.Bibi Salina	ASDEO (F) Batagram
Ms.Rifat Yasmin	ASDEO (F) Bannu
Ms.Rafia Jabeen	ASDEO (F) Bannu
Ms.Noor Jehan	ASDEO (F) Takht Bhai Mardan

Ms.Rashida Begum	ASDEO	(F)	Mansehra
Rehan Gul	ASDEO	(M)	Nowshera
Mohammad Rashid	ASDEO	(M)	Mansehra
Umara Khan	ASDEO	(M)	Mardan
Haji Mohammad Salim	ASDEO	(M)	D.I.Khan
Mumtaz Khan	ASDEO	(M)	Saidu Sharif Swat
Fatahud Din	ASDEO	(M)	Charsadda
Shah Daraz Khan	ASDEO	(M)	Bannu
Shamshad Gul	ASDEO	(M)	Tangi Charsadda

The following collected data for the Multi-class Study in the districts.

KOHISTAN (M)

Abdullah

KOHISTAN (F)

Shabana
Rehana Begum
Hamida Bibi
Rukhsana Begum

BANNU (M)

Islamud Din
Mustafa Noor
Mashkoor Ali Khan
Abdul Jalil

BANNU (F)

Names not yet received.

SWAT (M)

Ahmad Saleem
Faridoon Khan
Bisatmand
Bakht Rawan

SWAT (F)

Ms.Zeenat Sultana
Ms.Shagufta Naseem
Ms.Bibi Maryam
Ms.Bakht Toon Begum

CHARSADDA (M)

Mohammad Yousaf Jan

Abdul Wakil
Mukhtar Ahmad

CHARSADDA (F)

Ms.Naseem Akhtar
Ms.Munawar Sultana
Ms.Shaukat Durrani
Ms.Hussan Bano

DERA ISMAIL KHAN (M)

Abdullah Jan
Sheikh Mohammad Iqbal
Ashiq Mohammad

DERA ISMAIL KHAN (F)

Ms.Anwar Sultana
Ms.Shahida Parveen
Ms.Qaiser Shaheen
Ms.Najma Siddique

NOWSHERA (M)

Names not yet received.

NOWSHERA (F)

Ms.Naz Ambreen
Ms.Abida Parveen
Ms.Sajida Bi
Ms.Shakila

MANSEHRA (M)

Shah Hussain
Mohammad Nasim
Hafiz ur Rehman
Rahimullah

MANSEHRA (F)

Ms.Rashda Bibi
Ms.Nasira Begum

Ms.Chand Hamida Gul
Ms.Ghazala Shaheen

MARDAN (M)

Sayed Wakil Shah

Fazli Akbar
Habib Khan
Abdul Wakil

MARDAN (F)

Ms.Azmat Bashir
Ms.Zubaida Begum
Ms.Farhad Begum
Ms.Jameela Khatoon