IMPACT OF PRE-SERVICE TEACHER TRAINING ON CLASSROOM PRACTICES IN PRIMARY SCHOOLS OF PAKISTAN

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INTRODUCTION

This study[1] intends to find out to what extent the classroom practices of teachers in primary schools in Pakistan are influenced by pre-service training and whether PTC trained teachers differ in classroom practices from the teachers without any pre-service training. It is generally assumed that trained teachers teach more effectively than untrained teachers and trained teachers are more committed, mature and knowledgeable than untrained teachers. It is also assumed that trained teachers are aware of various teaching methods which enable them to teach more effectively. This paper examines empirical evidence with the objective of illuminating those assumptions.

The course contents of the PTC programme of 48 weeks, are meant to equip student teachers with the basic knowledge, teaching skills, educational theories and principles necessary for the understanding of their pupils and the effective development of the teaching-learning process.

Pakistan has traditionally given importance to pre-service

training as can be seen from its continued reconsideration in education policies and five years plans (Annex I). In Pakistan, PTC training programmes are being organized in 76 teacher training institutions and elementary teacher training colleges. PTC classes are also held in some high schools. The seventh plan proposes to increase these institutions in order ensure adequate supply of trained teachers to meet the demands for the universalization of primary education. Existing training institutions will be consolidated and new ones will be established. This study can contribute to these plans for consolidation by providing evidence on the effects of existing PTC training programmes.

The data on which this paper is based come from a sample survey of primary schools conducted by the AEPAM and project BRIDGES in December, 1988 and January, 1989.

The purpose of the survey was to identify factors that contribute to the achievement and promotion of students in primary schools.

About 900 teachers were interviewed using carefully pretested interview protocols and trained teachers of interviewers in many subjects ranging from the physical facilities of the school to their teaching practices. The sample of almost 500 schools was selected using probability sampling

applied first to districts within each province of Pakistan and then to schools within districts. The four provincial capitals and the federal district were included in the study. Students of classes IV and V were also tested in the subjects of Math and Science although these data are not used here.

In all 938 teachers were interviewed. Most of the teachers are trained,574 are PTC, and 82 without any pre-service training. 9% of the teachers had no professional qualification, 64% are PTC, 14% JV and the remaining 13% have other higher levels training. This paper focuses only on a subsample of the survey dataset: the teachers who are untrained or hold a Primary Teaching Certificate (PTC). Table 1 explains the distribution of PTC and untrained across the four provinces and the federal district.

Table 1: Professional qualification by province

	Islamabad	Baluchistan	NWFP	Punjab	Sindh	Total
		8	20	33	21	82
Untrained	4%	28.1%	26.7%	7.5%	18.3%	12.5%
	2	20	56	403	94	574
PTC	96%	71.9%	73.3%	92.5%	81.7%	87.5
	2	27	76	435	115	656
	.3%	4.2%	11.6%	66.4%	17.6%	100%

During the interview, teachers were asked various questions

concerning classroom practices. The present study focuses in the differences between PTC and untrained teachers in the following questions:

- What they do in classrooms
- How they organize instruction for children
- What teaching materials they use
- Are they familiar with teaching kit, modules, integrated curriculum and if yes, whether they use these aids in teaching
- How much time per week they spend on teaching Math and Science
- How much of the syllabus of math and science they have covered
- Frequency of homework and class tests, and grading and discussion of these
- Use of student monitors
- Physical punishment
- Meetings with parents and other teachers

This study concentrates only on the behavior of two groups of teachers, PTC and untrained. The analysis is focused on interpreting the relationship of teachers training with classroom practices.

Most of the teachers (78%) were in rural schools and only 19% were teaching in urban schools. In urban schools 91% were PTC and remaining 9% untrained, in rural schools 87% PTC and 13%

untrained.

About 47% were teaching in schools for male, 32% in schools for female while the rest 21% were teaching in coeducational schools. In male schools there were proportionately more PTC teachers (48%) and in female schools there are proportionately more untrained teachers (43%) and this difference was statistically significant.

Most of the teachers in the sample (61%) were regular teacher, 25% were headmaster, 6% head teacher. Most of the trained teachers were matric and untrained were matric or F.A. passed with 2nd division. About one half of the teachers have teaching experience of 7 years or less and most of the untrained teachers (83%) have 7 years or less experience.

School effectiveness depends on the way teachers teach in the classroom. So classroom practices have an important influence on students learning. This section explains the difference among the PTC and untrained in using different teaching aids and other facilities such as teaching kits, modules, integrated curriculum, blackboard and other materials.

Teaching Kit

About 79% of the teachers reported that they have a teaching kit in the schools and there were no differences between trained and untrained. The same lack of difference was observed controlling for urban-rural and experience of the teacher.

55% of the PTC teachers and 34% of untrained teachers report

that they use the teaching kit, this difference is statistically significant. Both urban and rural PTC teachers use the teaching kit more frequently than their untrained counterparts. The difference is however statistically significant only for rural teachers. The same difference is observed controlling for teaching experience, the differences between untrained and PTC with this control however are not statistically significant.

Teachers have used a teaching kit in average seven lessons a year. There is no significant difference between untrained and PTC teachers. The same is true when we examined this difference separately for urban and rural teachers and teachers with more or less experience.

20% of PTC teachers have been trained in the use of teaching kit, there is no statistically significant difference between PTC and untrained teachers. The same is true when examined for rural-urban and teaching experience. Overall the duration of teaching kit training was 20 days and we found a statistically significant difference between untrained and trained teachers in rural schools. THe same findings were observed with more experienced teachers when controlled by rural-urban and is statistically significant between untrained and trained teachers. When asked "in how many lessons have you used a teaching kit since school started this year ?", overall teachers reported that they had used the kit in 7 lessons, there is no statistically significant difference between PTC and untrained teachers and same findings hold when examined by rural-urban and experience.

Table 2: TEACHING KIT PRACTICES CONTROLLED BY LOCATION AND EXPERIENCE

	Untrained	Trained	Total	Sig.
Kit Available at School				
Total	72%	79%	79%	
N.S				
Location:				
Urban	64%	83%	77%	N.S
Rural	71%	78%	77%	N.S
Experience:				
Less	70%	77%	76%	N.S
More	78%	81%	81%	N.S
Teacher use kit in teaching				
Total	34%	55%	53%	.04
Location:				
Urban	22%	46%	45%	N.S
Rural	30%	49%	47%	.02
Experience:				
Less	28%	41%	39%	N.S
More	47%	53%	53%	N.S
#Lessons in used kit				
Total	5.26	7.35	7.17	N.S
Location:				
Urban	4.0	7.4	7.3	N.S
Rural	4.6	7.4	7.2	N.S
Experience:				
Less	5.4	5.6	5.6	N.S
More	5.0	8.3	8.3	N.S
Teacher was trained				
Total	15%	21%	20%	N.S
Location:				
Urban	35%	35%	35%	N.S
Rural	13%	17%	17%	N.S
Experience:				
Less	9%	15%	14%	N.S
More	36%	25%	26%	N.S
Average days of kit training				
Total				
Location:	39	19	21	.05
Urban	23	18	18	N.S
Rural	47	20	22	.04
Experience:				
Less	11	19	18	N.S
More	61	20	22	.003

Integrated Curriculum

Very few teachers (6%) reported that they know the integrated curriculum and although the proportion of untrained teachers who know the integrated curriculum was almost double than PTC teachers, this difference was not statistically significant. All untrained teachers who know integrated curriculum, teach in rural schools and there is a significant difference between the proportion of untrained teachers and the percentage of their trained counterparts who know integrated curriculum in rural areas. The same significant difference was observed for less experienced teachers (although the statistical significance of the difference is marginal). For more experienced teachers there is no difference between untrained and PTC. Of the teachers who know the integrated curriculum, half of them teach it in class.

Table 3: Integrated Curriculum controlled by Location and Experience.

	Untrained	Trained	Total	Sig.
Know Integrated Curriculum				
Total	11%	6%	6%	N.S
Location				
Urban	0%	11%	10%	N.S
Rural	12%	4%	5%	.02
Experience				
Less	12%	5%	6%	.05
More	5%	6%	6%	N.S
Teach Integrated Curriculum				
Total	22%	9%	11%	N.S
Location				
Urban	0%	10%	14%	N.S
Rural	30%	6%	10%	.002
Experience				
Less	22%	7%	11%	N.S
More	27%	11%	11%	N.S

Modules

The teachers were asked "Are you acquainted with modules approach to teaching", only few (9%) reported that they were familiar with modules and no statistically significant difference was found between PTC and untrained teachers. Same findings observed when we controlled by rural-urban and teaching experience.

When asked how long they have been using the modules, on the average, PTC teachers reported 2 years and untrained 1.4 years. This difference is not statistically significant. The same lack difference was observed controlling by urban-rural and teaching experience.

Table 4: Modules approach to teaching

	Untrained	Trained	Total	Sig.
Know modules				
Total	8%	9%	9%	N.S
Location				
Urban	22%	8%	8%	N.S
Rural	5%	8%	8%	N.S
Experience				
Less	8%	12%	11%	N.S
More	10%	6%	6%	N.S
Use modules				
Total	43%	33%	34%	N.S
Location				
Urban	79%	40%	44%	N.S
Rural	28%	28%	28%	N.S
Experience				
Less	39%	29%	31%	N.S
More	65%	38%	39%	N.S

Continue ...

	Untrained	Trained	Total	Sig.
How long (years) used modules				
Total	1.39	2.02	1.94	N.S
Location				
Urban	1.44	2.03	1.92	N.S
Rural	1.66	2.19	2.14	N.S
Experience				
Less	1.33	1.52	1.49	N.S
More	1.57	2.48	2.43	N.S

Blackboard and other materials

Almost all the teachers (99%) reported that they use the blackboard and there was no statistically significant difference between untrained and PTC teachers. Same findings hold when examined for urban-rural and less and more teaching experience. At the national level more PTC teachers (47%) than untrained (28%) use other teaching materials, this difference is highly significant. The Same findings observed for rural and less experienced teachers but not for urban or more experienced teachers.

Table 5: Blackboard and other teaching materials

	Untrained	Trained	Total	Sig.
Teachers use blackboard				
Total	100%	98%	99%	N.S
Location				
Urban	100%	100%	100%	N.S
Rural	100%	98%	98%	N.S
Experience				
Less	100%	98%	98%	N.S

More	100%	99%	99%	N.S

Continue ...

	Untrained	Trained	Total	Sig.
Teachers use Other Teacher Materials				
Total	28%	46%	44%	.003
Location				
Urban	28%	42%	41%	N.S
Rural	27%	47%	47%	.003
Experience				
Less	24%	43%	39%	.01
More	44%	49%	49%	N.S

Use of Monitors

Another question asked from teachers was whether they asked students to help in teaching the others. Most of the teachers (67%) use monitors. There was no statistically significant difference between PTC and untrained teachers. Same findings hold when examined separately for controls urban-rural and teaching experience. On the average teachers use monitors 5 hours a week and there is no difference between untrained and PTC teachers. When examined separately for urban-rural and teaching experience we found no difference between trained and untrained teachers.

Table 6: Use of Monitors

	Untrained	Trained	Total	Sig.
Teachers use monitors				
Total	64%	68%	67%	N.S
Location				
Urban	62%	51%	52%	N.S
Rural	63%	73%	71%	N.S
Experience				
Less	61%	71%	69%	N.S
More	79%	65%	65%	N.S
Average Monitors Hours				
Total	4.72	4.98	4.95	N.S
Location				
Urban	3.35	2.92	2.97	N.S
Rural	5.89	5.39	5.35	N.S
Experience				
Less	5.45	5.22	5.08	N.S
More	5.54	5.76	5.80	N.S

Ask students to translate

Most of the teachers (61%) ask students to make translations from one language to another and no statistically significant difference was found between trained and untrained teachers. Moreover the same finding hold for controls rural-urban and teaching experience.

Table 7: Language Translation

	Untrained	Trained	Total	Sig.
Teachers ask students to translate from one language to another				
Total	59%	61%	61%	N.S
Location				
Urban	48%	41%	42%	N.S
Rural	64%	67%	66%	N.S
Experience:				
Less	60%	61%	61%	N.S
More	59%	61%	61%	N.S

Teach from book in order

Most of the teachers (95%) teach in order the contents in the textbook. There is a high significant difference between trained and untrained teachers. Proportionally more trained teacher (96%) than untrained teachers (89%) teach from the book in order. Same findings hold for rural schools teachers. Moreover the same difference holds true for more experienced teachers.

Table 8: Teach book in order.

	Untrained	Trained	Total	Sig.
Teachers teach book in order				
Total	89%	96%	95%	.009
Location				
Urban	92%	97%	96%	N.S
Rural	89%	96%	95%	.01
Experience				
Less	91%	97%	96%	N.S
More	79%	96%	95%	.01

Multigrade teaching

Most of the teachers (61%) reported that they teach more than one class and there is a statistically high significant difference between untrained and trained teachers. More untrained teachers (76%) than trained teachers (58%) teach more than one class. Same findings hold true for both urban and rural. The same significant difference holds for more experienced teachers only.

Table 9: Multigrade Teaching.

	Untrained	Trained	Total	Sig.
Teachers teach more than one class				
Total	76%	58%	60%	.005
Location				
Urban	60%	28%	31%	.05
Rural	79%	66%	68%	N.S
Experience				
Less	74%	63%	65%	N.S
More	88%	55%	56%	.03

Instructional time

Another question asked to the teachers was how much time they spent on instruction. The first question is how much time teachers spend in instruction in a given subject. On average, teachers devote 7 periods per week to teach math and 6 periods to teach science and there is no statistically significant difference across PTC and untrained teachers in both subjects. Same findings hold true when examined separately for rural-urban and less and more experienced teachers. On the average teachers devote 5 hours per week to teaching math and the difference is statistically significant between trained and untrained teachers. On the average PTC teachers spend five hours a week teaching math while untrained teachers spend four hours a week. Same findings are true for rural teachers. Moreover the same findings were observed for less experienced teachers. Both trained and untrained teachers spend three hours a week on teaching science and the same result was found true for controls urban-rural and less and more experienced teachers.

On the average, teachers had covered 26 exercises of math and there was no statistically significant difference between PTC and untrained teachers. Same findings hold true when examined for controls rural-urban and less and more teaching experience. Average 53 exercises of science were reported to have been completed and there is no statistically significant difference across PTC and untrained teachers. Same findings hold true when examined separately for controls rural-urban and less and more experience.

Table 9: Periods per week math and science controlled by location and experience

	Untrained	PTC	Total	Sig.
Mean periods math				
Total	6.55	7.19	7.10	N.S
Location:				
Urban	6.30	7.36	7.26	N.S
Rural	6.68	7.16	7.09	N.S
Experience:				
Less	6.59	7.23	7.08	N.S
More	6.36	7.17		N.S
Mean periods Science				
Total	5.83	5.69	5.71	N.S
Location:				
Urban	5.49	5.45	5.45	N.S
Rural	5.97	5.76	5.80	N.S
Experience:				
Less	5.9	5.8	5.8	N.S
More	5.5	5.5	5.5	N.S

Table 10: Math and Science exercises covered controlled by location and experience

	Untrained	PTC	Total	Sig.
Mean Math exercises				
Total	27.98	25.99	26.23	N.S
Location:				
Urban	40.18	26.35	27.49	N.S
Rural	27.04	26.49	26.56	N.S
Experience:				
Less	28.41	24.34	25.17	N.S
More	23.78	27.20	27.07	N.S
Mean Science exercises				
Total	50.99	52.97	52.72	N.S
Location:				
Urban	55.7	58.7	58.4	N.S
Rural				
Experience:				
Less	47	51	50	N.S
More	66	53	54	N.S

Table 11: Minutes Per Week math and science Teaching by location and experience

	Untrained	PTC	Total	Sig.
Mean min. per week math				
Total	255	305	299	.01
Location:				
Urban	266	285	283	N.S
Rural	254	313	306	.01
Experience:				
Less	255	307	296	.03
More	255	304	302	N.S
Mean min. per week Science				
Total	255	305	299	.01
Location:				
Urban	209	190	192	N.S
Rural	201	211	210	N.S
Experience				
Less	207	210	209	N.S
More	170	202	200	N.S

Lesson plans and homework

Most of the teachers 87% make lessons plans and the difference is statistically significant between trained and untrained teachers. More trained teachers (89%) prepare lesson plans than untrained teachers (77%). The same difference is true for rural school teachers. Moreover same findings hold true for less experienced teachers.

Nearly all teachers (99%) assign homework and no statistically significant difference was found between PTC and untrained teachers in assigning homework. Same findings hold true when examined separately for controls rural-urban and less and more teaching experience. On the average both groups assign homework to their students 5 days a week and the same practice holds true for controls rural-urban and less and more teaching experience. Further, it was inquired from the teachers how much homework in math and science they assign on regular school days. On the average both groups give 6 exercises of math each day and statistically there is no significant difference between PTC and untrained teachers for controls rural-urban and less and more teaching experience. In science both PTC and untrained teachers assign homework on average 2 pages per day. There is a statistically significant difference for urban school teachers. On average untrained teachers assigned more science homework (3.5 page) than trained teachers (2 pages). Same findings hold true for less experienced teachers.

Most of the teachers(90%) reported that all or most of the

students complete homework and the difference between PTC and untrained teachers is statistically significant. Proportionally more students of trained teachers complete their homework than the students of untrained teachers. The same findings were true controlling for controls teaching experience and rural-urban. Almost all teachers (97%) stated that they check homework and here was no statistically significant difference between PTC and untrained teachers in this regard. Same findings hold true for both controls teaching experience and rural-urban. Only few teachers (14%) ask someone else to read the homework and no difference across PTC and untrained.

Almost all teachers (91%) grade the homework. There is no significant difference between PTC and untrained teachers. The same findings hold true when examined separately for teachers with less and more teaching experience and for rural or urban teachers. About one half of the teachers mentioned that they discussed all or most of the assignments with their students and no significant difference was found between PTC and untrained teachers. Almost all teachers (99%) return the homework back to the students and there was no significant difference between trained and untrained teachers. The same findings were observed when we examined the same practice separately for urban-rural and more or less teaching experience.

Table 12: Lesson plans and Homework controlled by location and experience

		Untrained	PTC	Total	Sig.
Teacher prepare lesson plan	Total	77%	88%	87%	.006
	Location:				
	Urban	78%	92%	91%	N.S
	Rural	76%	88%	86%	.01
	Experience:				
	Less	75%	90%	87%	.003
	More	88%	88%	88%	N.S
Teacher assign homework					
	Total	98%	99%	99%	N.S
	Location:				
	Urban	100%	100%	100%	N.S
	Rural	97%	99%	99%	N.S
	Experience:				
	Less	97%	99%	99%	N.S
	More	100%	100%	100%	N.S
Average days per week homework	Total	5.20	5.37	5.35	N.S
	Location:				
	Urban	5.5	5.4	5.4	N.S
	Rural	5.2	5.4	5.4	N.S
	Experience:				
	Less	5.0	5.3	5.2	N.S
	More	5.7	5.4	5.4	N.S
Average math homework per day	Total	5.97	6.53	6.46	N.S
	Location:				
	Urban	5.1	5.4	5.4	N.S
	Rural	6.3	6.8	6.8	N.S
	Experience:				
	Less	5.9	6.7	6.5	N.S
	More	6.1	6.3	6.3	N.S
Average science homework per day	Total	1.96	1.69	1.72	N.S
	Location:				
	Urban	3.5	2.0	2.1	.009
	Rural	1.8	1.6	1.6	N.S
	Experience:				
	Less	1.8	1.5	1.6	.03
	More	2.3	1.8	1.8	N.S

Continue....

	Untrained	Trained	Total	Sig.
Students complete				
(ALL)				Total=.0000
Total	81%	92%	90%	Urban=.001
Location:				
		Rural=.0000		
Urban	60%	15%	19%	Less Exp.
Rural	26%	19%	20%	=.003
Experience:				More Exp
Less	32%	24%	26%	=.0000
More	32%	16%	16%	
(MOST)				
Total				
Location:				
Urban	34%	76%	72%	
Rural	54%	72%	70%	
Experience:				
Less	51%	70%	66%	
More	41%	74%	72%	
Teacher read homework				
Total	98%	97%	97%	N.S
Location:				
Urban	100%	98%	99%	N.S
Rural	98%	97%	97%	N.S
Experience:				
Less	98%	97%	97%	N.S
More	100%	97%	97%	N.S
Someone else read homework				
Total	11%	15%	14%	N.S
Location:				
Urban	12%	16%	16%	N.S
Rural	10%	15%	14%	N.S
Experience				
Less	9%	12%	11%	N.S
More	19%	18%	19%	N.S
Teacher grade homework				
Total	87%	92%	91%	N.S
Location:				
Urban	88%	94%	94%	N.S
Rural	90%	92%	91%	N.S
Experience:				
Less	84%	92%	91%	N.S
More	100%	92%	92%	N.S

Continue...

	Untrained	Trained	Total	Sig.
All+most teachers discuss homework				
Total	41%	46%	45%	N.S
Location:				
Urban	46%	50%	50%	N.S
Rural	41%	44%	44%	N.S
Experience:				
Less	36%	47%	45%	N.S
More	62%	45%	48%	.01
Teacher return homework				
Total	98%	99%	99%	N.S
Location:				
Urban	97%	99%	99%	N.S
Rural	98%	99%	99%	N.S
Experience:				
Less	98%	100%	100%	N.S
More	100%	99%	99%	N.S

Testing

Most of the teachers (81%) reported that during the last month of teaching they had given written test to their students and there is a significant difference between PTC and untrained teachers. More PTC teachers (84%) had tested their students than untrained teachers (63%). Nearly all teachers (94%) reported that they usually discuss test results with their students and the difference between PTC and untrained teachers is highly significant. More PTC teacher discuss test results with their students than untrained teachers and the same findings hold true for less experienced teachers. Moreover the same finding is observed for rural school teachers. On the average teachers discuss test results for 42 minutes and the difference between PTC and untrained teachers is highly significant. Untrained teachers spend more time (52 minutes) than trained teachers (40

Table 14: Physical punishment controlled by location and experience

	Untrained	PTC	Total	Sig.
Teacher give punishment				
Total	51%	54%	54%	N.S
Location:				
Urban	20%	37%	35%	N.S
Rural	56%	58%	58%	N.S
Experience:				
Less	54%	62%	60%	N.S
More	38%	48%	47%	N.S

Meeting with parents and other teachers

Most of the teachers (84%) meet with other teachers to talk about school matters and the difference between untrained and trained teachers is highly significant. More trained teachers had meetings with other teachers than untrained teachers. Same differences were true for rural school teachers and less experienced teachers.

About one third of the teachers reported that they have met with all or most of the parents during the school year and there is no significant difference between trained and untrained teachers. Same findings hold true when examined separately for rural-urban and less and more experienced teachers.

Table 15: Meeting with parents and with other teachers controlled by location and experience

		Untrained	PTC	Total	Sig.
Teacher met with all or most parents	Total	22%	38%	36%	N.S
	Location:				
	Urban	15%	40%	37%	N.S
	Rural	24%	38%	37%	N.S
	Experience:				
	Less	22%	39%	35%	N.S
	More	23%	38%	37%	N.S

SUMMARY OF FINDINGS

Generally speaking, in most of the classroom practices both PTC and untrained teachers are similar. There were some practices used by proportionally PTC teachers and in some practices used proportionally were by untrained teachers. A summary of these findings is presented below by grouping the teaching practices in to three categories:

1. Practices used usually by both PTC and untrained teachers

- Both are familiar with teaching kit and most of them have teaching kit in the school
- Very few teachers (20%) have been trained in the use of teaching kit and on average duration of training was about 20 days
- On average both have used teaching kit 7 lessons during one yaer
- Very few teachers were acquainted with teaching modules

modules and on average during the last 2 years teachers were using modules.

- Almost all teachers reported that they use blackboard
- More than 60% of both groups use monitors on average 5 hours a week.
- About 60% of each group ask students to make translation from one language to another.
- Both PTC and untrained have equal periods of math and science. On average teachers take 7 periods of Math and 6 periods of science per week. Both trained and untrained teachers spend 3 hours a week on teaching science.
- On average both have covered same amount of syllabus, i.e. 26 exercises of Math and 53 exercises of science.
- On average almost all teachers assign homework to their students 5 days a week. On a regular day, they give 6 exercises of math and 2 pages of science book as homework.
- All or most of the students of both groups complete homework and almost all teachers check homework.
- Almost all teachers in both groups grade, discuss return homework back to their students.
- One half of teachers give physical punishment.
- About one third of the teachers met with all or most of the parents

2. Practices used proportionately were by PTC teachers than untrained teachers

- Comparativelly more trained teachers than untrained teachers used teaching kit in lessons. One half of trained teachers and one third of untrained teachers use teaching kit. However this difference is statistically significant only for rural school teachers
- Other than blackboard and chalk, on half of the PTC use other teacher materials, where as only one fourth of the untrained teachers use other materials.
- More trained teachers than untrained teach book in order.
- On the average trained teachers spend five hours a week teaching math while untrained teachers spend 4 hours a week.
- 89% of PTC and 77% of untrained teachers prepare lesson plans.
- More trained teachers (84%) than untrained teachers (63%) of untrained had taken a written test during the last month.
- 95% of PTC and 87% of untrained had discussed the test result with students
- More trained teachers than untrained met with other teachers to talk about schools matters.

3. Practices used proportionately were by untrained teachers than PTC teachers

- Only few teachers (6%) are familiar with integrated curriculum and almost the proportion of untrained teachers who know integrated curriculum was almost double than PTC teachers. However this difference is statistically significant for rural and more experienced teachers. All untrained teachers who know integrated curriculum, teach in rural schools.
- On average untrained spend 52 minutes and PTC 40 minutes on test result discussion.
- Untrained teachers have more load of teaching i.e. more untrained teachers than PTC reported teach more than one class.

CONCLUSION AND POLICY IMPLICATIONS

In most of the classroom practices both trained and untrained teachers show similar patterns although there are some practices used proportionately were by trained teachers than by untrained teachers. This means that training of the teachers is not as effective as it should be or that it has no observable impact in their behavior as assessed with the survey interview.

Two questions which are raised with this study are:

1. Why are these so few differences in the practices of PTC and untrained teachers? Are the PTC training programmes doing so little that one cannot distinguish the behavior of their graduates in the classroom from that of teachers who have not received this training?

2. Another question relates to the difference in effectivenes of the PTC and untrained teachers. What is the impact of the Teaching Practices in which both groups differ on student achievement. Further analysis of this data shall often this question with the aim of suggesting to teacher training institutions promissing practices to be emphasized in the training programmes.

An implication of this paper for educational policy is that policies to consolidate and expand training of primary schools teacher should also contemplate rigorous analysis and evaluation of existing training in order to aim for quality training and not just for large numbers of people receiving certificates. The T of the PTC should be emphasized over the C. The quality of our teachers in Pakistan is too important to our future and we can't afford mediocrity.

ENDNOTES.

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