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TEACHER TRAINING IN PAKISTAN: VALUE ADDED OR MONEY WASTED?¹

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The most basic standards for judging teacher training are whether it improves the quality of teaching and the academic achievement of students. Pakistan has two main kinds of teacher training. The first is the formal education of teachers, the number of years they spend in school. The second is teacher certification programs offering professional education.²

Federal and provincial governments also provide in-service training courses for teachers, most of which have no demonstrable impact on teaching methods or student achievement. Because of their doubtful value this chapter will not consider short in-service courses. However, it will analyze the lengthy in-service training given to teachers in Balochistan.³ Though typically given to teachers with five to ten years of service in schools, it operates under the same rules and with the same curriculum as pre-service certification programs in other provinces.

The BRIDGES project studied the impact of years of schooling and teacher certification on teaching practices as well as student achievement in Pakistan's primary schools. Much of the information comes from a national probability sample of primary schools in the country's four provinces and the federal district of Islamabad. In late 1988 and early 1989 a team of 100 Pakistani researchers carried out interviewers interviews with the heads of 500 schools as well as with about 1000 teachers and 300 supervisors. The interviewers also gave a short questionnaire and

achievement tests in mathematics and science to over 11,000 grade (class) 4 and 5 students. To gain a better understanding of the internal dynamics of teacher training institutes, in 1990 project researchers likewise carried out intensive qualitative observation of two training colleges and visited five others.

The analysis of teacher training will focus on four questions. First, do formal education and teacher certification improve the quality of classroom teaching? Second, do they affect the achievement of a teacher's students in mathematics and science? Third, does adding certification to formal education strengthen the relationship between teacher training and student achievement? And fourth, why does certification either make a difference or no difference for teaching practices and pupil achievement?

Formal Education and Certification

To enter teacher certification programs candidates must usually meet a required minimum of formal education. Pakistan has 4 levels of schooling: primary, middle, secondary and university. About 7 percent of the primary school teachers in the school survey completed only primary or middle school, which ends at grade 6; 61 percent finished matriculation, which goes through grade 10; and 20 percent went through the 12 years of education necessary for the Fellow of Arts (FA) or Fellow of Science (FSc) programs. Another 12 percent hold bachelor's or master's degrees from universities. To enter training programs preparing candidates for the credential needed to teach in primary schools,

the Primary Teaching Certificate (PTC), applicants normally must have completed matriculation. The next credential, the Certificate of Teaching (CT), requires an FA or FSc. The Bachelor of Education or Master of Education, teaching certificates granted by universities, comes after a prior university degree, such as the Bachelor or Master of Arts.

Provincial governments give professional education to primary and middle school teachers mainly through teacher training institutes or through distance education from the Allama Iqbal Open University (AIOU). The provinces also administer the examinations, which most students pass, which almost all candidates pass, for the PTC and the CT, the credential for middle-school teachers. Individuals wishing to teach in high schools seek the Bachelor of Education (BEd) at one of the 8 Colleges of Education or the 6 Institutes of Education and Research (IER), all located in universities. The provinces consider those holding certificates trained teachers and give them priority in hiring. They call those with no certificate untrained teachers. Trained teachers can be promoted to higher grades while untrained teachers are usually frozen at the rank at which they entered.

The AIOU distance education program allows untrained teachers to complete the PTC, CT, or B.Ed. through self-study in their free time.⁴ To support its students, AIOU, which is in Islamabad, maintains regional offices in large cities, such as Peshawar, and divisional offices in other areas. The program

assigns a tutor for each 25 or 30 students; in remote areas that ratio can drop to 10 or 15. Where the number of trainees is very small or transportation very difficult the program appoints a correspondence tutor.

AIOU maintains study centers in schools or Polytechnic centers where trainees can meet with their tutors every week or two. Except in technical courses, where attendance is compulsory, students are not required to appear at those sessions. Typically only about 20 to 25 percent do come. AIOU has model study centers that support training with television, radio, and audio or video cassettes, and general study centers lacking those facilities. Between AIOU's founding in 1974 and October, 1990, it granted about 5000 Primary Teaching Certificates. The government considers this training program particularly valuable for regions with no teachers' colleges.

A third kind of teacher training has attracted much attention because of its radical departure from the conventional principles of teacher certification and its success with teachers. This is the Field Based Teacher Development Programme (FBTD) developed by the Aga Khan Foundation and implemented jointly by them and the Government of Pakistan in the country's Northern Areas.⁵ FBTD has led to significant improvements in the quality of education by training uncertified and often poorly prepared teachers. Its most innovative feature has been on-the-job training in schools. Instead of hearing lectures about teaching, as in the teacher training colleges, ten trainees go

directly to schools and teach under the supervision of Master Trainers and each other. By 1989 the project had trained more than 1500 teachers from government and Aga Khan schools. Though FBTD was not set up as a certification program, participants study the theory sections of the PTC course. At the end of the program trainees take the PTC examination as private candidates, with a pass rate of around 80 percent.⁶

Teacher Training and Classroom Practices

The worth of teacher training programs can first be judged by their impact on how teachers teach. Do those with more years in school or those holding a certificate handle their classes differently from those with less schooling or no certificate?

Formal education. Pakistan does not define formal education as a means of developing better teaching practices. Nonetheless information on the extent to which it does will provide a background for evaluating certification programs, which do have that objective.

Table 1 shows the relationships between formal education, teacher certification, and 19 teaching practices. Interviewers collected information on these practices during personal interviews with teachers. The findings show their relationship to 4 levels of formal education: primary or middle, matriculation, FA or FSc; and university degrees.

The levels of a teacher's formal education show statistically significant relationships with 10 of the 19 teaching practices. Interviewers asked teachers to indicate the

number of the exercise they had reached in the mathematics textbook on the day of the interview. The mean was highest for those holding university degrees and dropped as the number of years in school declined. University graduates also gave less mathematics homework per day and more homework per day on other subjects than the remaining three groups.

Several practices dealt with methods teachers use to reduce the time spent with their classes, such as assigning student monitors to watch the class and help with homework or giving tasks to a group to keep it busy. Teachers responsible for two or more classes commonly used such practices to give them more time to work with a single class. Forty-seven percent of teachers with university degrees, 61 percent of those with an FA or FSc, 84 percent of those with matriculation, and 55 percent of those with middle or primary school used monitors. The number of hours they used those monitors followed the same order, with university graduates reporting the lowest mean and teachers with matriculation the highest. The same pattern appeared again with the percentage of teachers who assigned tasks to groups. These findings reveal no clear link between formal education and teaching practices related to the time spent with classes.

In 1974 Pakistan introduced the teaching kit, an innovation designed to reduce rote learning and help students learn abstract concepts from concrete materials. This was a box of 100 items such as test tubes, beakers, chemicals, a magnet, and pictures of famous personalities. As shown in Table 1, formal education was

not related to whether teachers had ever used a teaching kit in class. There were, however, differences by education on whether teachers received training on how to use that kit. Compared to the other levels of education, where over 30 percent or more of the teachers had been given such training, the figure for teachers with matriculation, the largest single group of primary school teachers, was only 16 percent. This finding confirms the complaints of many teachers and administrators that the kit was sent to schools without properly preparing teachers to use it. Among those with access to the kits teachers with university degrees and those with middle or primary schooling reported using them in more than 13 lessons a year while the other teachers averaged only 6 or 7 lessons. Once again teachers with the lowest level of education were more similar to those with the highest level than to those in the middle levels.

Interviewers likewise asked teachers if they used students as translators for pupils who did not understand the teacher's language. On this practice, which is positively related to student achievement in mathematics and science, 65 percent of teachers with matriculation used translators compared to about 50 percent for those with the FA FSc or middle and primary schooling and only 42 percent for university graduates. A possible explanation of the low figure for university graduates is that they are more likely than other teachers to be assigned to schools where students and teachers all speak the same language, particularly an urban school. Finally, the formal education of

teachers was related to their use of physical punishment with students. University graduates and teachers with middle or primary schooling were least likely to report this practice and those with matriculation most likely.

These findings show only one teaching practice with a direct relationship to a teacher's years of schooling: the number of the mathematics exercises the teachers had covered on the day of the interview. In several other cases, particularly with teaching methods used to reduce the teacher's time with classes, effective practices were more frequent as education moved from matriculation to university degrees. The exception on those and other practices was teachers with only middle or primary schooling. For reasons that are not clear, they often reported teaching more like university graduates than like teachers with matriculation. Thus formal education does make a difference for how teachers teach on 10 of the 19 practices considered, but usually not in a simple, straight-line fashion.

Teacher certification. How does teacher certification relate to the same 19 classroom practices? Table 1 uses 4 levels of certification: none; Junior Vernacular, a certificate that is no longer issued and that had less stringent requirements than the current PTC; the PTC and the Senior Vernacular certificate (SV), which has also been discontinued; and the Certificate of Teaching (CT) or education degrees from universities. In the BRIDGES sample of about 1000 teachers 9 percent had no certification; 14 percent the Junior Vernacular; 68 percent the PTC or SV; and 9

percent the CT or a university degree.

All certification programs explicitly aim to improve the quality of teaching. Yet, in comparison with the 10 significant relationships found with formal education, levels of certification are related to only 7 of the 19 teaching practices. Moreover, when these findings go in the same direction as those reported for formal education, as happens with the number of exercises covered in mathematics, it is difficult to know whether they show the influence of certification or of the years in school required before professional training.

Only two of the teaching practices show a direct relationship with levels of certification: the number of exercises covered in mathematics and the percentage of teachers who assign tasks to groups. The number of exercises increases and the percentage assigning tasks decreases with each higher level of certification. The other practices show no consistent association with certification. On the minutes per week spent on mathematics, teachers with the Junior Vernacular report the highest number, followed by those with the PTC or SV, the CT or higher levels, and teachers with no certification. A similar pattern appears with the amount of mathematics and science homework given per day, whether the teachers use monitors, and whether they have ever used the teaching kit. Only on the last item are those with no certification below the three groups of teachers holding certificates.

Comments by District Education Officers (DEOs), the

administrators directly responsible for schools in their regions, senior provincial education officials, and two university instructors in education also raise doubts about the impact of certification programs on teaching practices.⁷ Several DEOs, for example, found it impossible to distinguish certified from uncertified teachers by what they did in the classroom.

During provincial meetings in 1992 senior education officials who visit schools said that teachers do not adopt the methods suggested in the training programs. According to one official, "One problem with our teachers is that when they finish training they forget everything." A university instructor in education gave this blunt assessment:

Teacher training in this province is a mockery. We should close down the teacher training institutes and stop this nonsense. I have been teaching in a BA/BEEd. program for many years and I see no signs that I have any impact on the students that I teach.

Another instructor claimed that university-level teacher training is based on theory and supposition and does not develop the practical skills that teachers need in the classroom. And, speaking of the university at which the two faculty members were appointed, which had been shut down for political reasons, a provincial administrator remarked:

During the past two years 800 students have passed the BEd examination without attending one day of the university....We should close down the present system for two years and develop a better system for training.

BRIDGES research thus provides little evidence that teachers who hold certificates use more effective classroom practices than those who do not. Levels of certification are

significantly related to 7 of the 19 teaching practices examined, less than the 10 significant relationships seen with formal education. The findings might support claims that certification promotes effective teaching on two practices, but even those may reflect the influence of formal education as much as certification. On the other 5 practices the links between levels of certification and how teachers teach follow no single pattern. And teacher training programs get few cheers from provincial officials who manage schools, supervise those programs, or train future teachers. Some of them proposed closing down the present teacher training institutes until better programs could be developed. Many others were plainly skeptical of the way training is now being carried out.

Teacher Training and Student Achievement

The effectiveness of teacher training can also be judged by its relationship to the mathematics and science achievement of a teacher's students. The following discussion will address two questions about that relationship. First, is the formal education of teachers significantly associated with the achievement of their students on mathematics and science achievement tests? And second, with controls added for formal education, which always comes before certification, is the level of a teacher's certification significantly related to the achievement of his or her students?

Formal education. To answer the first question teachers were assigned to the same levels of formal education used earlier:

primary or middle, matriculation, FA or FSc, and university degrees. Those levels of education were then related to the achievement of a teacher's students on 4 tests: mathematics for classes (grades) 4 and 5; and science for the same grades. The scores of students on all 4 tests rose significantly as their teacher's levels of education increased.

Formal education remained a significant predictor of achievement when it was included with 16 other possible influences in hierarchical linear modeling.⁸ Among those were three measures of the socio-economic background of the students, based on information from over 11,000 pupils; whether the school was urban or rural; and several characteristics drawn from the sample of nearly 1000 teachers, including levels of certification and 4 teaching practices. These findings show that the relationship between the teacher's formal education and achievement cannot be attributed to the student's background, the school's location, certification or classroom practices.

The second question asks about the value added by certification to formal education. To answer that question each teacher was classified within each level of formal education by his or her certification: none, PTC, CT, and university degrees in Education. The resulting 16 categories of training were then related to scores on the four achievement tests.

Adding certification produced only modest gains in predicting student achievement. The 16 comparisons of teachers with and without certification showed statistically significant

differences in just 3. Two of those involved the 7 teachers with primary or middle education. Three who held the PTC had students with higher scores on both science tests than 4 with no teaching certificate. Because these 7 make up less than 1 percent of the total sample of teachers, findings about them must be treated with caution. Further, because the 3 teachers with the PTC had less than matriculation, the normal level prerequisite for PTC programs, the achievement differences may reflect their own strong career motivation as much as the influence of certification.

The third positive finding was on mathematics 5 for the 225 teachers who had completed matriculation. In this group those who held the PTC scored significantly higher than those with no certification. But in 13 of 16 comparisons certification made no difference for student achievement.

The study further explored the value added by certification to formal education through the hierarchical linear modeling described earlier. When included with 16 other possible influences on student achievement, teacher certification significantly predicted student scores on only one of the four achievement tests.

Thus formal education appears to have greater impact than teacher certification on two key performance criteria in primary education: how teachers teach and how well students achieve. Though it was not designed to promote either condition, formal education is more closely linked to effective teaching practices

than certification and predicts student achievement on the four tests of mathematics and science used in this study. Teacher certification, which Pakistan introduced to raise the quality of teaching and student learning, has a significant association with only one of those tests. Hence the primary school system in Pakistan benefits greatly from each level of formal education that its teachers complete. It gains little by requiring teachers to be certified.

Problems in Certification Programs

To learn why certification programs had such a meager impact BRIDGES asked a Pakistani researcher, Huma Nauman, to carry out intensive observation of a male and a female teacher training college.⁹ After detailed study of those colleges, she concluded:

Most inmates of this system have no respect for themselves, hence they have no respect for others. They mock at the system, laugh at their own foibles. They don't trust each other. The teachers think the students are cheats, the students think the teachers have shattered their ideals. Most of them are disillusioned. They have no hopes, no aims, no ambitions. They are living from day to day, watching impersonally as the system crumbles around them. If there is a major cause of self-destruction, it is this: each lifts a finger to accuse the other. Everyone thinks of himself as a victim.¹⁰

Another report on a male college echoed Nauman's stark judgment:

This is a college that shows few signs of life. The principal seemed half-asleep and relatively unconcerned about his work. His desk was empty.... Students seemed disconnected from the training program, faculty poorly motivated to teach, leadership from the Principal missing, the buildings in poor shape, science equipment gathering dust, and the library unused for teaching.¹¹

The weak impact of certification programs can be traced to 7 sources: the trainees; the principals and instructors; the

curriculum; teaching methods; behavior during examinations; buildings; and weak leadership.

The Trainees

Most primary school teachers choose their profession because they could find nothing better, because of connections with politicians, or both.¹² As a result the typical trainee in a certification program enters with little motivation to study. They know full well that, whatever happens during the program, they stand an excellent chance their of passing the certification examinations. They see the months spent at teacher training institutes a nuisance to be endured rather than an opportunity to learn. Some idealists do enter certification programs and remain committed to teaching despite what happens during their training. But they are the exceptions.

Teacher certification programs in Balochistan face the greatest obstacles of any in Pakistan. Because of its severe shortage of teachers Balochistan appoints candidates to teaching posts with no pre-service training. Most of those candidates obtain their positions on the basis of recommendations from provincial and national politicians. The province then assigns them to teach for 5 or more years before they receive any training. By that time they have formed teaching habits that would be hard to dislodge even with the effective training courses. They see their training not as a way to improve their teaching but to get the certificate that they need to be called trained and to be promoted.

When they enter a PTC program they receive their full salaries as well as housing allowances. Given their political sponsorship they run no risk of being thrown out of the colleges even if they do not attend classes or do poorly in their examinations. To keep the time of training to a minimum these candidates use up their leave as teachers. As a result PTC training lasts only 6 months compared to the official guideline of 9 months.

In the other three provinces most PTC trainees enter with a second division ranking in matriculation, and a few with a first division, the highest ranking. Candidates in Balochistan typically come into PTC programs with a third division in matriculation, the lowest passing grade. Because they have a guaranteed job no matter what they do during training, because almost all of them will pass the PTC examination on their first sitting or later, and because many of them regard PTC training as superfluous for experienced teachers, they show scant motivation to study. During an interview with BRIDGES staff the head of a teachers training institute in Balochistan complained about the difficulties of changing the behavior of the trainees in his program. During meetings in 1992 other senior officials raised the same point.

Some candidates enter training colleges through appointments known as quotas. In early 1990 half of the teacher trainees in NWFP entered certification programs through merit and half through quotas. The latter included 25 percent for the

province's Chief Minister, 10 percent for the children of teachers, 5 percent for members of minority groups, 5 percent for the handicapped, and 5 percent for the military. During 1989 Punjab assigned 65 percent of its candidates by merit alone and 35 percent by quotas similar to those in NWFP.

The impact of quotas depends on how they are used. In 1992 Punjab appointed all candidates for quotas, such as the children of teachers, by merit and insisted that they all enter the training programs at the same time. Thus according to officials in Punjab, quotas served their social purposes, such as opening teaching positions to the handicapped, without harming the quality of instruction.

By contrast, in 1990 quota candidates in NWFP showed questionable academic ability and commitment to teaching. The Vice-Principal of a teachers training college in NWFP remarked that such people are "just garbage...and we have to take them." One Principal received a letter from the Chief Minister's office recommending a man who had completed matriculation but was looking for a job as an unskilled laborer (peon). The letter said: "Please admit him to the PTC program." After close observation of two colleges Nauman reported that political influence (sifarish) brought in the most incompetent, least suitable, and least motivated candidates.¹³

Further, because they trickled into certification programs over 2 or 3 months, these political appointees disrupted the flow of training. Instructors had to help the latecomers make up the

material they missed and deal with the confusion produced by the constant entry of new trainees. In the schools studied by Nauman training began in September but students continued to be enrolled until the middle of December. The principal of another college complained about the motivation of candidates selected by quotas and about the complications they caused for her teaching program. In 1991 the Chief Minister gave up his quota of 25 percent and by 1992 officials responsible for teacher training said that the province was relying more heavily on merit in selecting trainees.

During BRIDGES interviews education officials often criticized the academic ability of candidates for teacher training. At his college, one principal in rural Balochistan reported, most students came from the second or third division while those from the first division went into medicine. He added: "those with higher qualifications are dangerous because they are waiting for other jobs besides teaching."

Of the 833 teachers in the BRIDGES survey who had divisional rankings, 11 percent were in the first division, 64 percent in the second division, and 25 percent in the third division. Thus in the country as a whole 89 percent were from the second and third divisions.

Graduates of matriculation (Grade 10) in the second or third division make up the largest single group of trainees. In the two colleges observed in NWFP this level of education left candidates with a weak base in all subjects. They had poor training in mathematics and inadequate skills in speaking, reading, and

writing. Many understood little Urdu, the language of instruction. Nauman commented:

In my conversation with the male teacher trainees I unconsciously switched from Pushto [the main local language] to Urdu. They wouldn't respond. As they relaxed a little they told me to speak Pushto only; they did not understand Urdu very well. I found the same difficulty faced by the Chitrali girls--some of them do not speak Urdu at all.¹⁴

Nauman also found the written Urdu and grammar of even the better male trainees to be poor.

In sum, many candidates for teacher training enter certification programs because they can find no better job, through political connections, or both. They show little enthusiasm for teaching and weak motivation to study during training. Their academic background leaves them ill-prepared for their studies. Some cannot speak or write Urdu, the language used in class and in the textbooks. A few enter thoroughly committed to teaching and keep that commitment throughout the program. But most find certification programs a time to be endured rather than an occasion to learn.

Principals and Instructors

The provinces differ in how they view and treat the faculty at teacher training institutes. In NWFP many principals and instructors think that they were given their present positions as a punishment for some wrongdoing. Education officials in that province told a BRIDGES interviewer that when high school teachers reach their time for promotion and no one wants them as school heads, or when they are school heads who fail in some way,

they are sent to teachers' training colleges.¹⁵ After having authority in their previous posts, former school heads find it humiliating to become instructors in a training college.

Principals and instructors in Punjab and Sindh enjoy a better reputation among the provincial education departments and are more willing to continue with those jobs. Faculty at training colleges in Balochistan do not suffer from the low status of their counterparts in NWFP. However, because of the difficulties mentioned earlier, they do not find their work rewarding or challenging.

Few, if any, of the staff responsible for preparing Pakistan's primary school teachers have ever taught in a primary school. Neither BRIDGES nor the British Council, whose consultants visited 25 training institutions, found a single instructor or principal with primary school experience. Most in those positions had previously been principals or teachers in secondary schools.¹⁶

In the two training colleges carefully observed by Nauman instructors showed a stronger desire to teach as well as more energy and discipline than male instructors. Those women

... have more work to do. They take their responsibilities seriously. They spend every minute of their time working, Their teaching practices are dull and monotonous but they teach. Some of them are not very competent but they play it safe. Most of them follow the textbooks religiously.¹⁷

Instructors in the male college had low morale, a poor opinion of the teaching profession, and serious doubts about themselves as teachers. A mathematics instructor made this

remark:

In Pakistan teachers don't work very much. They are lazy. They don't care about their pupils. They don't care about the institutions.¹⁸

Another instructor justified his own limited coverage of the curriculum by noting that no one else at the college was doing any better. That was true. The male instructors were also more likely than the female to cut their class time to about half of that officially prescribed and to take more rest breaks.

Observation of two other training colleges in the same province indicated the same differences by gender.¹⁹

The provinces have no organized programs to develop the capacity of instructors and principals at teacher training institutes. They treat them as fully-formed professionals who need no special attention and no chances to improve their knowledge. Nor do they have a career ladder for principals and instructors at those institutes. As a result many staff feel alienated, isolated, and trapped in a profession that has little impact and leads nowhere.

Curriculum and Textbooks

A new teacher assigned to a poorly-equipped rural school usually faces these questions: How can I manage several grades of students at the same time? How should I arrange seating for those grades so that one does not interfere with learning by the others? What should I do if some of my students who speak another language do not understand what I am saying? Should I follow the official hours for school when the weather is very hot or very

cold? How can students do exercises at the beginning of the year when they do not have the required textbooks?

The curricula used in teacher certification programs address none of these points. They cover material more concerned with broad principles than with the immediate problems of teaching.²⁰ While the new teacher may worry about how to instruct several grades at the same time, the curriculum speaks of the history of education and general approaches to teaching. When asked about the curriculum used at his training college, the principal answered: "There should be more emphasis on teaching practice, rather than on what Aristotle said."²¹ But, he added, "we hesitate to suggest changes in the curriculum; we are just here to implement it."

After a careful review of syllabi for certification programs and brief visits to 25 training institutions across Pakistan, the British Council gave this assessment of the curriculum:

The content...appears to be heavily theoretical with little evidence of the use of simulations, micro-teaching or practical activities related to the craft of teaching.... members of the team received many comments from staff that the courses were both too short and too heavily theoretical.²²

Whatever the quality of the official curriculum, instructors ignore its guidelines in allocating time to classes. In two colleges they decided that, though this emphasis was not sanctioned by the curriculum, courses should build up trainees' knowledge in the subjects covered by Class (Grade) 5. Faculty recognized that many trainees entered the certification program without enough knowledge to be adequate teachers of mathematics,

science, and other primary school subjects. To fill those gaps they spent 75 percent of their time teaching primary school subjects, 17 percent on teaching practice, and the rest on examinations or other matters.

The official PTC curriculum encourages teaching in laboratories to develop scientific thinking, and proposes experiments on air pressure, magnets, and light. When they were built most training colleges had laboratories and equipment to permit such experiments. Yet in four colleges the science laboratories were not being used for teaching. In one the equipment gathered dust on tables in an abandoned classroom. In three others it was locked in cabinets so that it could not be used or stolen. Teachers thought that experiments were unnecessary because they could cover the science curriculum perfectly well in their lectures. In science and other fields they emphasized concepts and theories rather than practical demonstrations.

All of the colleges observed had libraries, but only one allowed students to take out books. Officials in the others said that if the books circulated students would lose or steal them. Then the auditor general's office would ask the college to pay a penalty three times the value of the item lost. The one college with an open library and a full-time librarian successfully solved the problem of losses by charging students a security fee. The pattern of library use raises the same question that came up with science experiments: do instructors believe that their

courses need supplementary materials? Most, in fact, do not.

The Quality of Teaching

The success of any school depends heavily on its methods of teaching. Students learn not only from the content presented in lectures, textbooks, and discussions, but from the deepest principles behind the methods used. Instructors in Pakistan's teacher training institutes followed three such principles: teachers should talk, students should listen, and the official curriculum is irrelevant.

In the male college studied by Nauman instructors usually dictated notes. The dictation had little to do with the official curriculum or the textbooks for the courses. Instead instructors used guides and notes they had kept from their own time in certification programs. On entering class one instructor opened his notebook and began to dictate slowly and precisely. He stopped occasionally to repeat or explain what he had just been saying. He signaled the end of class by closing his notebook.

In a variation on dictation, a male instructor walked into class, went to the blackboard, and started writing. The trainees copied the material on the blackboard in their notebooks. When the board was full and the instructor thought that students had copied the material, he erased it and wrote more. During this period of writing and copying the instructor did not say one word to the class. In an Urdu lesson some students copied what was on the board and others did not open their notebooks. The instructor did not ask why they were not copying the lesson nor if they

understood what it meant. At the end of the class he left the room.

At the men's college frequent absences and breaks by the instructors and trainees caused confusion. Instructors had one class before and another after the recess, and were expected to remain at the college all day. Some of them resented this policy and skipped one class to get part of the day off. They informed the principal of their plans, and he felt powerless to refuse. During recess at least a third of the trainees also left the college, so that the classes after recess were taken very lightly. If they were held, little work was done in them. Staff and students at the women's college had a much better attendance record.

Instructors in the women's college preferred lecturing from the prescribed textbooks. An exception was a teacher on drawing and art, who dictated from her own personal notes. During the lectures teachers would sometimes say "any questions?", but few trainees replied. When Nauman asked the students why they asked no questions one replied:

I feel so dumb anyway. If I expose myself I will become the laughing stock of the whole class. They will make fun of me.²³

Another said: "I can't speak Urdu so how do I ask?"²⁴

Trainees reacted to this one-way communication in several ways. The compliant dutifully took notes, especially on passages the instructor mentioned as important. Others skipped classes, took no notes, fell asleep, sat with glazed expressions in class,

and saw no need to read the textbook or otherwise prepare for classes. A visit to a male training college in North West Frontier Province illustrated some of those reactions:

As we walked around the hostels [dormitories] we saw many students who seemed to be skipping class. The flavor of the college was one of disengagement and drift.... The dominant culture was somnolence.²⁵

Trainees learn to teach more by how they are taught than by what they are taught. They may hear lectures about teaching methods other than lecturing, but they will remember the lecture describing those methods more readily than the other methods. At one woman's college an instructor gave a deductive lecture explaining that, while an inductive approach to teaching was always good, a deductive approach was bad.²⁶ In certification programs actions speak louder than words.

Examinations

Examinations in certification programs test the extent to which trainees are able to reproduce the knowledge passed by their instructors. They contain factual and descriptive questions best handled by rote learning. Trainees who have read and memorized long lists of items from courses will have no trouble answering the questions. The highest ratings go to those who reproduce the best.

This system has three adverse effects on primary education. First, it feeds back into teacher training by reinforcing the view that students are passive recipients of information supplied by others. They are to sit in the classroom, take notes, and then literally feed back what they have written. The ideal student

asks no questions, challenges no ideas, and does not stray from the path of received knowledge. Second, examinations discourage instructors and trainees from applying the concepts they are learning to concrete problems of teaching. It would be a distinct innovation in certification programs to have students discuss what the general principles of teaching mean for such problems as multi-grade classes. Third, the examination system feeds forward into the kinds of instruction the trainees will give when they take positions in schools. Their approach to teaching will be much the same as what they learned during certification and in their education before that. They, too, will insist on rote learning; discourage innovation, debate or criticism; and rely on examinations much like those they took in the training college.

Cheating on examinations is common in Pakistani higher education. Nauman found that both men and women cheated, but men more often. During the internal examinations instructors allowed male trainees to go into the toilets, where they had stored their textbooks. They simply walked out with their answer sheets and came back with the answers filled in. Women copied from the person next to them, wrote answers on chair handles in fine print, wrote hints and clues on the palms of their hands, whispered to share information, and showed each other what they had written.

The instructors were not anxious to catch cheating trainees because it created an issue. When they did they gave very light penalties. In an examination at the male college the instructors

paid little attention to the traffic to and from the toilets because they were listening to cricket matches. Men caught cheating were fined 20 rupees (about one U. S. dollar) but could continue with the examination. A woman cheater had her paper taken away for 10 minutes, and she then went on with the exam.

Estimates of how many students cheated in the two colleges ran from 85 to 100 percent. Lazy students cheated to make up for their ignorance, able students to defend themselves against inflated grades by the lazy. Such rampant dishonesty bred cynicism among students about each other, their instructors, the examinations, and the entire certification system.

Buildings and Equipment

The buildings within which teacher certification takes place serve as housing for training programs and symbols of their value. The buildings themselves may not directly affect the motivation of the faculty or the quality of instruction they give, but they send signals about how much the instructors, the students, and the certification process are worth.

Colleges showed wide variations in the quality of their buildings. Warwick gave this report on a female training college:

One's first impression on entering the gate is that the buildings are neat and well-maintained. Flower pots with live plants were arranged around the main corridors, the screens on the windows were all in good repair, the floors were clean, and the college seemed to be in good physical order....This College seemed well-managed and serious in tone.²⁷

His notes on a male college were quite different:

The College buildings were poorly maintained and the corridors littered with unused furniture. No one seemed particularly concerned about the clutter caused by the piles of desks and chairs, nor about the untidy appearance of the College as a whole.²⁸

The college also had a room full of science equipment covered with dust and a library in which books were tightly locked into cases for fear that they might be lost or stolen.²⁹

In the male college she observed Nauman found many empty rooms filled with extra furniture and broken toilet fittings. The walls and the floors were soiled, the furniture was dusty, electric wiring was hanging from the ceiling, and toilet fixtures were dripping. A senior instructor responsible for maintaining the premises showed no interest in that task.

What impact does the condition of buildings have on the quality of teacher training? If there were a direct influence the better-maintained colleges, which are usually for women, should show higher quality than those that are poorly maintained. But they do not. Whatever the condition of their buildings none of the certification programs seems much better than the others in developing effective teaching practices or in raising student achievement.

While it may not affect program outcomes, a cluttered and dirty building does send a message. It tells faculty and students that they do not count enough to have adequate and well maintained space for training. The furniture piled in the halls, the unused science equipment, the library books locked in cabinets, the wires hanging from the ceilings, and the leaky

toilet fixtures show staff, students, and visitors the low priority the Pakistan government puts on teacher training. The contrast between training colleges and areas of high priority, such as military schools, is obvious.

Leadership and Supervision

In the training institutes, in the provincial bureaus responsible for their operation, and in the federal government no one actively seeks to promote high-quality teacher certification programs.³⁰ In one province the Bureau of Curriculum Development, the unit in charge, did not supervise the quality of education in the training colleges. The Bureau's Director often visited the colleges, but discussed only administrative matters. At no time did he ever observe a class in progress. The province had no guide, no supervisor, and no leader of teacher certification.³¹ The other three provinces also showed no active leadership on teacher certification programs.

At two colleges in the same province the principals also failed to monitor, much less raise, the quality of training in their own institutions. The principal of the men's college sat at his desk most of each day. The instructors reported to him in the morning and later brought him the day's attendance sheets, which he stored. He spoke volubly about how he scorned the students and mistrusted the instructors. In the women's college the principal had closer contact with her instructors, but had never observed any of them teaching a class.³² Faculty at the women's college took their teaching more seriously than those at the men's

college, but both institutions seemed frozen at their current level of quality. No one asked how students, faculty, teaching, or examinations could be improved. Change was not on anyone's agenda.

The case studies by Nauman provide detailed insights into two training colleges and their administration in one province. But are conditions the same for certification programs in the other three provinces? Visits to other colleges and discussions with senior education officials revealed differences in attitudes and practices across provinces.

In Punjab and Sindh principals and instructors were more willing to stay on at teacher training institutes than their counterparts in NWFP. There most principals and instructors in teacher training institutes would rather have other positions, particularly as school heads. Principals and instructors in Balochistan showed little enthusiasm for their work, but wanted to continue at their colleges because they were located in cities rather than rural areas. Candidates for teacher training were most likely to be selected on merit in Punjab and Sindh and on merit and political recommendations in NWFP. In Balochistan, where certification programs are for in-service teachers, the main criteria affecting when teachers were sent for training were seniority in teaching and political recommendations. The four provinces were alike in the low priority they placed on teacher certification programs, the formalism of the curriculum, heavy reliance on lecturing rote learning, and the apathy or inaction

of students in the classroom.

Conclusions

This chapter underscores the need to distinguish between the two main types of teacher training in Pakistan: formal education and teacher certification. The greatest difference between these forms of training appears in their relationship to two achievement tests in mathematics and two in science. Student scores on all four tests rise significantly with each additional level of their teachers' formal education. The teachers' levels of certification show a significant relationship only with one of those tests.

Neither formal education nor teacher certification makes much difference for effective teaching. Both are significantly related to some of the 19 teaching practices included in the school survey, but the pattern of results in was too ambiguous to support any broad interpretation about effective teaching.

Certification programs yield such limited results because of their poor quality. Unmotivated faculty and students; inactive principals; a curriculum divorced from the tough realities of teaching; heavy reliance on lecturing, dictation, and rote memorization; cheating on examinations; and a lack of supervision or even much concern about what happens in the colleges all undercut the ability of certification programs to turn out well-prepared and dynamic teachers.

Pakistan has three options for dealing with teacher certification programs. One is to leave them alone. With this

choice federal and provincial authorities would continue to pour funds into training that has little impact on the quality of education. Second, the government could improve the quality of teacher training. For example, following the model of the Field Based Teacher Development Programme, it could jettison abstract theory about teaching and require carefully supervised experience in schools as the main requirement for certification. Training programs could also deal explicitly with some of the most common problems in rural schools, such as teaching several grades at the same time and communicating with children who do not understand the teacher's language.

The third and option is to close down all government certification programs and replace them with more years of formal education. Provinces might require that, instead of entering PTC training after matriculation, candidates for teaching posts spend two more years completing the Fellow of Arts or Fellow of Sciences. This policy would create difficulties in Balochistan, which is desperately short of candidates who have finished matriculation, but might be viable in Punjab, which has a large surplus of trained teachers, Sindh, and North West Frontier Province. If the government then decides that some form of teacher training is necessary, it could experiment with, for example, a three-month certification program carried out entirely in classrooms.

Above all, Pakistan must ask if the current system of teacher certification deserves the large investment of time and

money it is now receiving.³³ The BRIDGES findings suggest that it does not.

NOTES

1. This essay draws on the sample survey of schools carried out by the Harvard Institute for International Development and the Academy of Educational Planning and Management in Islamabad; an intensive observational study commissioned by Project BRIDGES on a male and a female teacher's training college in one province (Nauman, 1990); observations of three more teacher colleges and interviews with their staff by Donald Warwick and other members of the Primary Education Development Project in Pakistan; over 100 interviews by BRIDGES staff with federal and provincial education officials; BRIDGES interviews about teacher training in Punjab, Balochistan, and North West Frontier Province (Reimers, 1989); a report on teacher training by the British Council (1988) that was based on brief visits to 25 training colleges and many primary and middle schools; and other studies and reports on primary education in Pakistan, including Bhatti *et al.*, 1986, 1988; Culbertson *et al.*, 1986; and The Association of Working Women, 1988. The conclusions of a preliminary report were qualified, updated, and refined during feedback sessions with provincial and federal policy-makers, including the federal Minister of Education, in January, 1992.

2. A report from the World Bank claims that teacher certification programs cost far more than equivalent training available at local high schools. The authors estimate that teacher certification in Pakistan costs more than 25 times as much per pupil as education in general secondary schools. They recommend that governments transfer the general education component of teacher certification to secondary schools. See Lockheed and Verspoor, 1990, pp. 67-68.

3. The BRIDGES survey of schools showed that short in-service courses taken by teachers showed no relationship to the achievement of their students on two tests of mathematics and two of science. During personal interviews teachers, school heads, provincial school administrators, and federal education officials all expressed doubts about the value of such courses. The chapter will, however, consider the impact of the lengthy in-service training provided to teachers in Balochistan by teacher training institutes. This training is the equivalent of the pre-service training given to candidates for teaching in the other three provinces.

4. The following information on AIOU programs draws in part on a 1990 interview conducted by Donald Warwick and other members of the Primary Education Development Project with a former regional

director of AIOU.

5. Bede, circa 1989.

6. Because the survey of schools did not cover the Northern Areas, the following analysis includes no teachers who received their PTC from the FBTD nor any students from that region.

7. BRIDGES research on teaching practices included the survey of 500 schools and intensive observations of 265 classes in 32 schools carried out by Andrea Rugh and her colleagues from the Academy of Educational Planning and Management in Islamabad. To prepare for the second study Rugh and her associates observed 20 schools in 3 provinces and, as part of that effort, interviewed several District Education Officers about teaching practices (see Rugh, 1987). This information and other interviews conducted with DEOs as part of the survey are used in the following discussion.

8. The specific procedure used was two-level hierarchical linear modelling. The first step was to consider the impact on achievement of student background conditions (within-school conditions), such as their parents' literacy and possessions. The researchers next examined the influence of teacher background and classroom practices (between-school conditions) while simultaneously considering the background conditions. For more details on this procedure see Bryk and Raudenbush (1992).

9. Nauman, 1990.

10. Ibid., 2-3.

11. Warwick, Donald, 1990. Notes on the college prepared for the Primary Education Development Project in Pakistan.

12. See, for example, British Council (1988) and Bhatti et al. (1986, 1988).

13. Nauman, 1990, 23.

14. Nauman, 1990, 23. Chitral is a region of NWFP.

15. Reimers (1989) and Nauman (1990) cite examples confirming the point made here. During an interview at a male training college in North West Frontier Province an instructor pointed out that he had previously been a headmaster but lost that job and was sent to the college. He said that he very much wanted to be a headmaster but did not have the political connections necessary to get one of the positions available.

16. See British Council, 1988, 29. According to the authors, lecturers would welcome the opportunity to gain experience in primary schools on a regular basis, such as one day a week (1988,

77). Given the negative attitude of those instructors toward their positions at the colleges this openness to teaching experience seems doubtful.

17. Nauman, 1990, 19-20.

18. Ibid., 21.

19. These observations were made by Donald Warwick, Andrea Rugh, and other members of a research and development team working with the Primary Education Development Project in Pakistan.

20. The authors take exception to the following statement from the report on teacher training by the British Council: "Curricula are often expressed in rigorous, interesting and demanding terms, requiring teachers and learners to go far beyond routine rote learning...." (1988, 1). That judgment was shared by no one interviewed by Project BRIDGES nor was it supported by intensive field observations in two training colleges and visits to others. It was also contradicted by material presented in the text of the British Council's report, particularly on pp. 71-72.

21. From a summary of observations prepared by Donald Warwick in 1990.

22. British Council, 1988, 72.

23. Nauman, 1990, 60-61.

24. Ibid., 61.

25. From a report prepared on the college by Donald Warwick, Primary Education Development Project, October, 1990.

26. British Council, 1988, Annexe 4.

27. Report prepared for the Primary Education Development Project, 1990.

28. Ibid.

29. Consultants for the British Council (1988) found similar contrasts in buildings and equipment. They reported that some colleges were bright and airy while others were cramped and dingy.

30. The British Council (1988, 70) comments: "There is no effective structure for quality control and development either at Federal or Provincial level."

31. Nauman, 1990, 69.

32. Ibid., 90.

33. A World Bank study on primary education argues that teacher certification in Pakistan costs over 25 times as much per year as secondary education (Lockheed, Verspoor, et al., 1990, 68).

REFERENCES

- Association of Working Women in Pakistan. 1988. "The Education and Retention of Rural Primary School Women Teachers." Lahore, Pakistan.
- Bede, Udo with the assistance of Shaheen Chowdhri, undated (circa 1989). Improving Primary School Teaching: An Evaluation of the Field-Based Teacher Development Programme in the Northern Areas of Pakistan. Bonn: Education, Science and Documentation Centre, German Foundation for International Development.
- Bhatti, Muchtar A. and others. 1988. Female Teachers in Rural Areas of Pakistan. Islamabad, Pakistan: National Education Council.
- _____. 1986. Primary Education Improvement: Desired Measures. Islamabad, Pakistan: National Education Council.
- British Council. 1988. Pakistan Teacher Training Survey: Final Report. Report No. 048J4881288. London: British Council.
- Bryk, Anthony S. and Stephen Raudenbush. 1992. Hierarchical Linear Models: Applications and Data Analysis Methods. Newbury Park, CA: Sage.
- Culbertson, Robert and others. 1986. Primary Education in Pakistan. Arlington, Virginia: Development Associates, Inc.
- Lockheed, Marlaine E., Adriaan M. Verspoor, with others. 1990. Improving Primary Education in Developing Countries: A Review of Policy Options. Draft prepared for the World Conference on Education for All, Bangkok. Washington, D. C.: World Bank.
- Nauman, Huma, 1990. Primary Teaching Certificate Program in N.W.F.P.: A Study. Cambridge, Mass.: Project BRIDGES, Harvard Institute for International Development, Harvard University.
- Reimers, Fernando. 1989. Report on interviews about teacher training in Pakistan. Cambridge, Mass.: Project BRIDGES, Harvard Institute for International Development.
- Rugh, Andrea. 1987. "Observations: Field Visits to Schools in Pakistan." Cambridge, Mass.: Project BRIDGES, Harvard Institute for International Development.