

Effectiveness of in-service teacher education programmes offered by the
University of Education, Lahore

A report of an evaluation study carried out by the Aga Khan University Institute for Educational
Development, Karachi and the Society for the Advancement of Education, Lahore.

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Summary

This is a report of an evaluation study carried out by the Aga Khan University's Institute for Educational Development (AKU-IED) and the Society for the Advancement of Education (SAHE). The evaluation was of teacher professional development programmes run by the University of Education, Lahore at the request of the Punjab Education Department. The study was funded by the United Kingdom's Department for International Development.

The overall programme was a very ambitious one aimed at improving the skills, knowledge and competence of some 150,000 primary teachers in the areas of English language, mathematics and science by providing them with two-week-long courses in each of the three areas. The programme was planned to run from summer 2001 to end-2003 and the evaluation study was commissioned in late 2003. This timing enabled only some assessment of impact through classroom observation but data were also collected through interviews and focus group interviews, questionnaires and document analysis.

The programme under review was implemented by the University of Education, Lahore using a four-tiered cascade model in which a group of 14 Key Trainers developed content and materials and then passed on this knowledge and expertise to a group of some 150 Lead Trainers who then passed on their knowledge and expertise to some 3,000 Master Trainers who in turn passed on their expertise to some 150,000 Trainee Teachers. The very scale and ambition of the project is staggering and we commend the University and the Department for even attempting such a huge initiative.

The outcomes of the project were, on the whole, disappointing. There was little evidence of impact on the Trainee Teachers' subsequent classroom behaviours and the teachers' perceptions of the programme were also not flattering. Flaws were identified in the development, design, planning and implementation of the three programme areas. In addition some contextual issues were identified which would militate against programme success.

The specific recommendations of the study are that:

- 1: The University of Education, Lahore should create a high level programme review committee to ensure that its programmes are of maximum possible quality and relevance.

- 2: The University should initiate a process of external review and evaluation of all its offerings so as to develop the highest international quality of its programmes and its faculty.
- 3: The University should develop partnerships with teachers to assist in the professional development of the teaching workforce.
- 4: The University should assist Government and especially the Education Department in developing mechanisms for holding the University accountable for its professional development programmes, their success, relevance and impact.
- 5: The University should adopt a 'teaching as life-long learning' perspective in the design of all its teacher professional development programmes.
- 6: The University should take especial care that its programme lengths match its programme objectives.
- 7: The University should develop a coherent and integrated strategic plan for its programmes for the professional development of teachers.
- 8: The University should develop a coherent and integrated strategic plan for the development of its faculty.
- 9: The University of Education, in conjunction with the Department of Education, should explore possible mechanisms for large scale English language training, perhaps using resources outside their own.
- 10: Any future implementation of a cascade model must systematically address the known weaknesses of such models.
- 11: The University of Education should apply rigorous and criterion-based selection procedures in selecting training personnel for its programmes.
- 12: Instructional materials used in training programmes must be chosen or developed to meet their intended purposes and to be of high quality.
- 13: The University should explore alternative approaches to the delivery of teacher education and professional development (e.g. distance education; online delivery or assistance).
- 14: The University of Education and/or the Department of Education consider ways of supporting the development of professional associations of teachers.
- 15: The University of Education in collaboration with the Department of Education consider ways of using exemplary classroom teachers or school leaders as professional developers.

16: Support and follow-up mechanisms for in-service activities should be implemented to ensure classroom application of teachers' course learnings.

17: The University of Education should develop strategic plans with its resource centres and constituent institutions so that they can participate in providing effective follow-up and support to teachers completing or who have completed professional development courses.

18: The Department of Education, in collaboration with the University of Education, should consider ways of being able to provide credible University certification for its programmes of teacher development.

In addition some further specific suggestions are made regarding the need for comprehensive needs assessments; clear and explicit programme objectives; clarity in any planned criterion- or challenge-testing (one of the planned uses of the pre-test in the University's programmes); a focus on student-centred teaching and learning methodologies; use of a diversity of materials and resources; and the addressing and meeting of different and diverse prior levels of competence, proficiency and skill.

The final section of this Report urges the development of long-term strategic approaches to teacher education and development rather than the adoption of 'quick-fix', mass training solutions. Such strategic approaches should take account of some simple but powerful generalizations about effective teacher education and development. These include the need:

- for both long- and short-term solutions;
- for a variety of approaches and methods including multi-pronged approaches;
- to recognise teaching as a skilled profession and to raise the status of teachers and teaching;
- for recognition of the effects of teacher education and professional growth on the development of quality education;
- for recognition of the importance of educational leaders and their professional development;
- to develop first class educational material, resources and textbooks;
- to develop strong coordination across provincial and district levels and across all the different 'players' in the educational process;

- to facilitate teacher education development and research so that
 - lessons can be learned,
 - improvements in practice can occur,
 - incisive policy analysis can be carried out, and
 - effective policy development can occur; and
- above all to enable the development and retention of high quality human resources in education, teacher education and teacher professional development.

We then note that the Punjab does not have an apex teacher education and development institution; that the development of PITEs as apex institutions in each province has not happened; that such an apex teacher education institution would assist in addressing the issues raised above. We urge the Punjab government to initiate a vigorous debate about how it might develop such an institution in the province. Without it, the infrastructure to ensure effective teacher education and development in the Punjab will be severely hampered.

Introduction

Educational quality in Pakistan.

Pakistan is consistently ranked low among the countries of the world in the quantity, quality and equity outcomes of its educational system and educational programmes (SPDC, 2003; UNDP, 2003). This is in part a legacy of the past but it is also in part a failure of government and government agencies to implement (or have implemented) successful educational development projects and programmes.

Within Pakistan, educational provision and educational outcomes are by no means uniform. Typically, there are substantial differences across the four provinces (Balochistan; NWFP; Punjab; Sindh) and the various federally administered areas. Then, also, within the provinces there are large rural-urban discrepancies and across-district differences. In addition, across Pakistan, and again, for a variety of reasons, girls tend to be less educationally successful than boys.

Reasons for lack of educational success are many. Not least of these are reasons of scale—Pakistan has both a very large and a very rapidly growing population. Other dilemmas have arisen from instability of national governments in Pakistan; the low proportion of GDP devoted to education; corruption; lack of infrastructure; and lack of well-developed human resources. The recent federally-initiated reforms, including Education Sector Reform, have included devolution of responsibilities, including responsibility for primary, secondary and higher secondary education from provincial to district governments. District governments are now attempting to raise educational quality with the assistance of provincial governments and other agencies.

Improving the quality of education in the Punjab province.

The province of Punjab is Pakistan's most populous with its more than 80 million people constituting some 60% of the nation's population. Although there has been growth in private provision, the public sector is by far the largest provider of schooling. In Punjab there are 44,175 primary schools; 5,974 middle schools, 4,425 secondary, 304 higher secondary and 8,229 mosque schools. These schools have a teaching establishment of some 325,000 posts and the number of enrolments is around 9,000,000. (Punjab government web site at <http://www.punjab.gov.pk/education/secondary.htm>).

Teachers in the Punjab, in common with others in Pakistan, face problems of low salaries; poor conditions; poor initial teacher education including poor content knowledge; poor in-service and

professional development opportunities; and low societal status. The Punjab Government has recognized many of these issues and through its actions has asserted that one of the keys to quality improvement in education is teacher improvement. To this end, it has taken several teacher education and development initiatives. One of these was a project commissioned from the University of Education, Lahore addressing the in-service professional development of primary teachers in the areas of English language, mathematics and science. The focus of this evaluation study is on that project.

The in-service teacher education and development programme of the University of Education.

The project, designed by the Department of Staff Development within the University of Education, was an ambitious and large-scale one aimed at some 120,000-150,000 primary school teachers. The underlying notion was that of a ‘crash course’ of some two weeks in each subject-area for each participating teacher. The aims of these brief courses were to upgrade the primary teachers’ pedagogical skills and content knowledge in the three areas of English language, mathematics and science.

To address these very large numbers of trainee teachers, a four-tiered approach was adopted. If the group of 150,000 trainee teachers was seen as Tier 4, then Tier 3 was the group of more than 3,000 Master Trainers who would run the classes for and impart the training to the Trainee Teachers. These Master Trainers would work with the trainees in all thirty-four districts of the Punjab. However, these Master Trainers were also identified as requiring their own training and familiarization before running the programmes and so Tier 2 was created. This was a group of close to 150 Lead Trainers who would work with the Master Trainers in preparing them for their task of teaching the trainee teachers. Finally, at the level of Tier 1, there was a small group of 14 Resource Persons/Key Trainers whose roles included materials development and working with the Lead Trainers.

This approach is a clear example of use of a ‘cascade model’ of training. In a literal cascade or waterfall, water runs down from a height, through a series of levels, perhaps spreading out over larger and larger areas as it flows to its final destination. In a cascade model of training, it is assumed that it is knowledge or skill that flows from one level to another. In the case of the Punjab project, it was assumed that knowledge and skill could flow from the Key Trainers to the Lead Trainers, and then from the Lead Trainers to the Master Trainers, and then from the Master Trainers to the final recipients, the Trainee Teachers. As Jacobs and Russ-Eft, (2001) describe it,

cascade training is simply a flow of ‘critical information from one group to another until it reaches the final destination’ (p. 496).

The overall project was to be run with three batches of trainee teacher participants from 2001 to 2003. However, the last batch has been delayed to 2004. The first cycle of professional development programmes in science and mathematics took place in summer 2001. The second cycle of professional development programmes in English language began in summer 2003. The professional development programmes on average took two weeks in each subject-area and were conducted in three batches. Each batch consisted of about 40,000-50,000 teachers at the respective Training Centres in the province. At some time in the life-cycle of the project, an assessment or evaluation study was sought by the University of Education in conjunction with the Department of Education of the Punjab. This was then supported financially by the Pakistan office of the United Kingdom’s Department for International Development which sought bids for execution of the project from two contractors: the Society for the Advancement of Education (SAHE), a Punjab-based non-government organization, and from the Aga Khan University’s Institute for Educational Development (AKU-IED). The request for proposals indicated preference for a consortium bid from these two potential contractors; this was provided and a contract was signed on August 25, 2003. As indicated above, this was very late in the life-cycle of the project and this therefore limited the study; imposed a very tight timetable upon it and influenced its nature in terms of the ‘do-able’ instead of the ‘ideal’.

Design of the Evaluation Study

Terms of reference.

The provided objectives for the Evaluation Study were to:

- a) assess the delivery and impact of the in-service teacher education programmes managed by the University of Education, Lahore; and
- b) recommend strategies for effective teacher development.

These objectives were elaborated in the Request for Proposals through more detailed specifications in three broad areas: programme delivery; programme impact and recommendations. A copy of these is provided as Appendix 1.

Research Questions.

In addition to the two general objectives, some elaboration of the study remit and attempted summary of the detailed specifications in Appendix 1 was carried out through the development of some main and subsidiary research questions that were designed to guide both the study and the shape of this report. These were:

1. Was this the training the teachers needed?
 - a) What was the process of assessing the needs of the teachers?
 - b) To what extent were the programmes responsive to the needs of the teachers?
 - c) How did the teachers perceive the effectiveness of these programmes?
2. How well was the training designed and delivered?
 - a) What was the rationale for adopting a cascade model in these in-service teacher education programmes?
 - b) What was the role of the University of Education, Lahore in the design and delivery of these programmes?
 - c) What was the process of monitoring the application of newly learned skills and knowledge in the classroom?
3. What was the impact of the training?
 - a) What was the impact of these programmes at classroom level?
 - b) What were the factors that facilitated or hampered the success of these programmes?
 - c) To what extent were teacher development networks formed or used for purposes of continued teacher support and growth?

Methods and approaches used in the study.

This study was a qualitative one. This enabled the researchers to understand the participants' perspectives, images, concepts, personal meanings and descriptions of activities and events (Berg, 1998). It also helped the researchers to seek answers to the research questions through critical examination of various social settings in which the participants operated (Denzin, 1978).

Research Instruments.

The study used individual / focus group interviews, questionnaires (open and closed-ended), participant and classroom observation and document analysis (instructional materials, programmes policy, planning documents and reports). Copies of all instruments used in the study are available from the authors.

Steering Committee and Research Team.

A research team was formed consisting of personnel from both AKU-IED and SAHE. Its members were:

<i>From AKU-IED</i>	<i>From SAHE</i>
Dr Harcharan Pardhan	Dr. Fareeha Zafar
Dr Muhammad Memon	Mr. Abbas Rashid
Ms Fauzia Qureshi	Mr. Imran Niaz
Mr. Muhammad Babur	Mr. Mashallah
Ms. Shazia Solangi	
Mr. Munawar Hussain	

A project steering committee comprising members from AKU-IED and SAHE was formed. It met several times in Lahore and Karachi and provided professional support and critique to the research team. Its members were Dr Iffat Farah; Dr Gordon MacLeod; Dr Muhammad Memon; Dr Harcharan Pardhan; Dr Sadrudin Pardhan; Mr Abbas Rashid; and Dr Fareeha Zafar.

Key stakeholders.

Several key stakeholders were identified. They were three members from the University of Education, Lahore—its Vice Chancellor, the Head of the Department of Staff Development and the Director Finance; three members from the Department of Education—the Education Secretary; the Additional Secretary and the Deputy Secretary; and representatives from the Department for

International Development, the funding agency for the evaluation study. These stakeholders played a variety of essential roles. The study design and plan was shared with them; they provided advice and insight into the training programme and its rationale, background and philosophy; provided materials from the programme, described its background and played a key role in facilitating our entry to the field. The three University of Education stakeholders were interviewed individually both at the beginning and end of the data collection period.

Study samples.

(a) Focus group interviews.

One suggestion in the Request for Proposals was that the evaluation study should include a variety of districts, of training sites, of teachers, of boys’ and girls’ schools and of literacy levels. To these ends, a two-stage process was used to select districts and thereafter their schools and personnel. First, three regions of the Punjab were selected—Southern, Central and Northern Punjab. Then, three districts in each of these regions were selected for the study. These districts are shown in Table 1.

Table 1: Districts selected in each of three Punjab regions.

<i>Region of Punjab</i>	Districts		
<i>Northern</i>	Attock	Jhelum	Rawalpindi
<i>Central</i>	Faisalabad	Lahore	Sheikhupura
<i>Southern</i>	D. G. Khan	Rajanpur	Muzaffagarh

Local expert advice was used to attempt to include districts which would guarantee a wide variety of educational achievement including literacy.

Once these nine districts had been selected it was proposed to involve small samples in focus group interviews from each district; from each of the three subject-areas of the training programmes and from each of the four tiers of trainers as shown in Table 2.

Table 2: Planned Sample Sizes for Focus Group Interviews.

Category of Participants	English	Maths / Science	Total
Key Trainers	6	6	12
Lead Trainers	18	36	54
Master Trainers	27	54	81
Trainee Teachers	45	90	135
Total	96	186	282

However, as is often the case in practice, our actual sample was only 228 instead of the planned 282. This substantial discrepancy will be not unfamiliar to those who conduct social science research in developing countries including Pakistan. For a variety of reasons but most frequently because of claimed engagement in various academic or professional activities many of the identified sample were not able to participate in the planned data collection. Therefore, as Table 3 shows, some attempts were made to increase overall sample numbers outside the parameters of the planned sample.

Table 3: Actual Sample Sizes for Focus Group Interviews.

Category of Participants	English	Maths / Science	Total
Key Trainers	2	4	6
Lead Trainers	5	13	18
Master Trainers	23	32	55
Trainee Teachers	42	107	149
Total	72	156	228

(b) Classroom observation.

In order to gain direct data on the possible impact of the programmes on classroom practice, observation was carried out in twenty classrooms, ten in each of the districts of Lahore and Jhelum. Twenty of the teachers involved in this process were also interviewed. In addition, 160 of their students (in Classes Four and Five) were interviewed in small groups. Care was taken to ensure that teachers of both boys and girls were included in these interviews, that both men and women teachers were included and that all interviewed had previously taught English language, mathematics or science and had participated in the teacher education programmes.

(c) Training Centre observations and questionnaires.

Visits were made to thirty-five training Centres and this allowed observation of the delivery of the English language programme. These observations were complemented by questionnaires given to 62 of the Master Trainers and 1500 of the Trainee Teachers.

Findings

Before reporting and discussing our findings we wish to record our commendation to and appreciation of the University of Education, Lahore and the Punjab Education Department. They are the ones who envisioned the ambitious training programme; who were courageous enough to commit to it and just as audacious in encouraging an independent evaluation of their activities. And, whilst what follows is generally critical (for that is often in the very nature of an evaluation) we do wish the implementers—the University of Education, Lahore—to know that we appreciate their efforts and endeavours. Whilst we offer critique in what follows, we do so in full knowledge that we do not have fully-fledged alternatives to offer to that which we critique. There are no easy or well-validated alternative recipes or remedies to offer. Instead, as a group of professional colleagues, we attempt to offer independent advice and assistance so that we can together improve the quality of education in our country.

1. Programme planning and design: Was this the training the teachers needed?

(a) *Needs and needs assessment.*

There was no adequate needs assessment in English language to guide the training programme's focus and content. Without a needs assessment, it is difficult to be responsive to teachers' needs. This was a particularly salient issue because there was some evidence of confusion of purposes between a needs assessment and the pre-tests that were carried out. However, the absence of a needs assessment was a problem perceived by many of the participants. If such an assessment had been carried out it would probably have shown a diversity in the needs which the programme designers would have had to address. Instead, the programme went ahead on the apparent assumptions that:

- all the teachers had the same or similar needs;
- that teachers from rural, urban and semi-rural areas had the same levels of competence and conceptual understanding of a given subject-area; and
- that they would all therefore benefit from the same short-term programme.

In the case of the mathematics and science programmes, there was a prior needs assessment but it seems that this was used primarily as an indicator that 'there is need' rather than as a diagnostic tool which fed into the design of the programmes.

(b) *The pre-test, post-test programme.*

One issue that clearly caused problems in (and for) the project was the pre-test, post-test programme that had been developed. The plan had been that a pre-test, post-test design would be used to assess or demonstrate programme impact. At the same time, there was an expectation that one of the programme effects or requirements would be that participants would score 100% on the post-tests (which is unrealistic, unnecessary and obviates the need for a pre-test in the first place). For the very first two batches of teachers (in the science and mathematics programme) the test programme came to be seen as a threat to job security and became such an issue that the trainees went on strike. The teacher participants tell their own story:

[they] threatened us that if we will not score 100% marks in post test, we will be expelled from our jobs. This was quite intimidating for all of us and we opted to go on strike. This strike went on for many weeks and, frankly speaking, almost two of the three batches could not attend the training properly. (Focus group interview, Primary School Teachers, Sept. 2003)

Another respondent stated:

Training started in a smooth and peaceful environment. [Then] after some time, all of sudden, a statement appeared in newspaper from the then Education Minister of Government of Punjab that if any of the trainee teachers would not score 100% marks in post-training test, s/he will be terminated from the service. This was a great threat for the government schoolteachers and they went on to strike against this order. (Focus group interview, Resource Persons, Sept. 2003)

Towards the end of the second batch of mathematics/science cycle of the programme, the Government of Punjab eased the situation by declaring that the trainees could do the post-test at some time after programme completion. Despite this, the post-tests were in fact done by these trainees. It transpired that the tests had become public and the trainees therefore sought help from the Master Trainers to find the correct answers. For the third batch of the science / mathematics cycle and the two batches of English language trainees the post-test condition was eased and hence the strike action was ceased.

It is of interest to note that an initial proposed condition for participation in programmes had been that if teachers gained a 100% score on the pre-test, then they would not need to attend the workshop. However, throughout the data collection process no mention was made of this condition and few if any participants were aware of it.

Thus, the whole issue of pre- and post-tests caused some very serious difficulties and certainly contributed to building negative perceptions of the programme. Further, it appears that the tests that were used could be queried on their technical quality, as they were not subjected to any test of reliability or validity. The testing programme seems not to have been developed properly nor its uses communicated properly.

(c) Teachers' perceptions of programme effectiveness.

Our general conclusion is that the teachers did not have favourable perceptions of the programme. The data reveal that the majority of the teachers were not able to achieve the objectives of their professional development programmes. They felt that the programmes were too 'prescriptive' and did not cater to their professional needs. The trainee teachers found the Master Trainers friendly but the trainees were also handicapped in terms of their English language proficiency and competency and their mathematics and science content knowledge. As one Lead Trainer put it 'It was not [the] sort of training through which the trainees may learn...language skills but it was just to train...teachers, who even don't know the ABC of English.' (Lead Trainers Interview Sept. 2003).

The majority of teachers also thought that the programmes 'kept them busy' rather than helped them in 'enhancing their English language/math/science and pedagogical skills'. The manuals were perceived to be 'not user friendly'. Indeed, some of the participants did not even bother to bring their manuals to the Training Centres. The English language programme participants found the English textbooks particularly difficult because of their own low English language proficiency and knowledge.

On the whole, the majority of the teachers seemed to be dissatisfied. The science and mathematics trainees had difficulty in recalling anything they had learned during these programmes. When the Lead Trainers, Master Trainers and Trainee Teachers were asked to provide some specific examples of their pedagogical or content learnings, their most common response was that 'You should have given us these questions before interview so that we could have prepared the answers and also brought our notes to show you, we cannot remember...[but] during lectures we took many notes'. This suggests that the teachers did not benefit from these programmes. Common responses of the trainees in mathematics, science, and English language were that the programmes needed to be made more attractive, effective, interactive, and needs-based so that trainees could fully benefit. These, the teachers felt, would make them more competent to provide quality education for their students.

2. Programme design, implementation: how well was the training designed and delivered?

(a) *The cascade model.*

Two critical factors seemed to have led the University of Education and the Department of Education of the Government of Punjab to make use of a 'cascade' model for the in-service teacher education programmes. First, it was simply an acknowledgement of the enormity of problems of the poor **quality** of teacher education in the province. Second, it was an analogous acknowledgement of the enormity of the problem of the sheer **quantity** of ill-prepared teachers in the province and the need to cover large number of teachers in a short time. As one of the Resource Persons put it ‘[in the] province of Punjab...there are 162,000 teachers [and] to train such huge number in one year’s time, use of the cascade model seems the best solution’ (Interview, Resource Persons, Sept. 2003, pp. 03).

Table 4 gives an overview of the model used for this project and its time allocations.

Table 4: Participants, their tasks and duration of tasks.

Participants	Total Number	Task	Duration
Key Trainers	12 English: 6 Maths/Science: 6	Materials development Develop Lead Trainers.	1 week for English 1 month for mathematics/science (for about 1 week the KTs worked together. The rest of the time they worked individually) 1 week for Mathematics/science and for English.
Lead Trainers	142 English: 72 Maths/Science: 70	Disseminating material to Master Trainers. Develop Master Trainers.	1 week
Master Trainers	3175 (English: 1875 Maths/science: 1300)	Develop primary school trainee teachers.	2 weeks (12-days) for English 1 month for mathematics/science (approximately 2 weeks of mathematics and 2 weeks science)
Trainee Teachers	100,000 – 120,000 (35,000+ in each batch)	Participate in the programmes (programme was conducted in 3 batches)	2 weeks for English 1 month for mathematics/science

(b) *The role of the University of Education.*

The first cycle (science/mathematics) of the programme took place in the summer of 2001 and the second cycle (English language) began in the summer of 2003. In order to conduct these programmes, the University of Education, Lahore hired professional staff as Key Trainers, Lead Trainers and Master Trainers for the project. However, (and somewhat understandably) because of the University's own limited institutional capacity they relied on resource persons who had neither relevant experience nor adequate expertise in the subject areas (this seemed especially so in English language). Although the University involved its constituent colleges and institutions in the development and delivery of these programmes, communication gaps and a lack of effective coordination seemed also to affect programme delivery.

The University was also assigned the role of monitoring and follow up but this did not seem to have been carried out systematically. As the University Vice Chancellor described it:

Monitoring at class room level is a very difficult notion in our culture. A large network of educational officers has become 'officials'. We are thinking to develop proper mechanism for monitoring. Our tentative thoughts are that Resource Centres may develop some 'reports for action'. The University of Education may develop Monitoring Proforma that can be implemented through District Governments. (Interview, University of Education Vice Chancellor, Oct. 2003).

The University also planned for 700 Training Centres for the professional development of 35,000 teachers in English language scheduled for August 2-13, 2003. Subsequently, 847 Training Centres were made operative to accommodate teachers and said to be near to their residences or schools. However, a majority of the teachers seemed to be dissatisfied with the location of Training Centres due to long distances, lack of adequate transport, and the lack of physical facilities. Although the programme ran in vacation periods, the locations had been fixed with the schools as reference points. This became problematic for many teachers who were actually travelling from their homes rather than their schools.

(c) *Lead Trainers' and Master Trainers' proficiency and professional skills*

During focus group interviews it was found that most Master Trainers and some Lead Trainers had little proficiency in English language and also inadequate knowledge of English language teaching (ELT). Our interviews of Master Trainers in both the English language area and in the mathematics/science area had to be conducted in Urdu and the Lead Trainers' interviews were conducted in both Urdu and English. Specific questions were asked from the Master Trainers

about their content knowledge in English language teaching and this was found inadequate in most cases. Thus, it became clear that the majority of Master Trainers and some Lead Trainers were not proficient in the English language and had inadequate knowledge of their subject areas.

At most Training Centres, it appears, that for English language a lot of emphasis was placed on 'improving pronunciation' rather than the 'improving pedagogy', which had been mentioned in the objectives of the programme. There was very little flexibility in the framework for trainers at any level to use their discretion except in the selection of lessons or topics on which model lessons or presentations (charts) had to be prepared. Interviews revealed that most of the Master Trainers were selected on the basis of their prior training and academic qualifications (e.g. M.A. English). And where there were no Master's degree holders available, opportunity was provided to other subject specialist teachers with supposedly relatively good language skills. Given the standards of education in Pakistan it is not clear how simply having a Master's degree in a given subject entitles someone to become a Master Trainer. Typically today, course developers of teacher education programmes argue for blending teaching methodology with content to encourage learners to think pedagogically about subject matter and the connection between disciplines and key issues regarding teaching and learning (Morales et al., 2003). Indeed, these authors further document that teachers who have a deep understanding of mathematics are not necessarily able to transfer this knowledge to the students they teach. Likewise, some teachers who are well-versed in pedagogy have difficulty teaching elementary school mathematics effectively.

Master Trainers also appeared to adhere entirely to the narrow focus of the training manuals. In this setting, it is difficult to imagine how Trainee Teachers will actually get an opportunity to improve their content and pedagogical skills. Morales and colleagues (2003) have emphasized that effective teachers need both a strong background in mathematics and a thorough understanding of pedagogy.

(d) Clarity of objectives of the programmes.

The science and mathematics programme took place before the in-service teacher education programme in English. The programme started in June 2001 and ended in September 2001. During the interviews it became apparent that the science and mathematics programme had been developed in line with the findings of the 'Report on Competency Tests for PTC Teachers of the Punjab in the Subjects of Mathematics, Science, and Pedagogy' conducted in 2000. But the programme objectives were not very explicitly stated. During the interviews, the participants (Key Trainers, Lead Trainers and Master Trainers) said that the purpose of the programme was to

enhance content and pedagogy of all primary teachers for effective teaching. The pedagogy was understood as ‘activity based’ and ‘student-centred’. The content was based on common topics of National Science/Mathematics Curriculum for classes I – V. However, the trainees identified the training as preparation for a new syllabus that was to be launched in the following academic year (which did not seem to be the case). To the extent that the objectives remained unspecific and ambiguous then the programme was bound to fail.

The programme in English language focused on teaching primary school teachers in order to prepare them to teach English to children from Classes 1-5. The first two batches of the programme, spanning 12 days without a break, were completed in August 2003. The remaining batch of the programme was due to complete in December 2003 but has been delayed.

The programme manuals and other documents appear to contain no explicit programme objectives, an issue of some importance in the design of educational programmes (Pakistan National Education Report, 1998). However, under separate headings, the broad objectives of the Key Trainers’, Lead Trainers’ and Master Trainers’ workshops and of the two-week training of the Trainee Teachers were mentioned under the title ‘Objectives of the Programme’ in the English language manual for primary school teachers published by the former Department of Staff Development/University of Education, Lahore. Furthermore, the training manual mentions that the resource persons will be provided an overview of the training objectives in the light of the national English language curriculum, 2002. It was not clear how these objectives were spelt out for the benefit of the resource persons entrusted with preparing the manuals and initiating the in-service teacher education programme. There also seemed to be an ambiguity about the focus of the programme in relation to the enhancement of content knowledge of trainees for developing their English language skills and pedagogy.

(e) Design framework of instructional material for the programmes.

The science and mathematics instructional material consisted primarily of two manuals written in Urdu. One was for Master Trainers and the other for Trainee Teachers. The Master Trainer manual lists topics and sub-topics from the national primary curriculum. Alongside the sub-topics, there appear to be suggested activities (including some questions) for teachers. It resembles an Urdu-version of the National Science Curriculum (itself written in English) except that the topics appear to be non-systematically placed as compared to the curriculum (e.g. magnetism → light → force

and motion → sound → heat → energy instead of magnetism → force and motion → Energy → Heat → light → sound). There is neither sequential organization nor any links between the topics.

The predominant language of the suggested activities implies or suggests a very ‘teacher-centred’ approach as opposed to the intended ‘child-centred’ approach (e.g. ‘the teacher will show... the teacher will tell ...the teacher will explain ...the teacher will conclude’). There is little mention of group work, discussion or sharing of learning. The questions for the teacher are at a low thinking level (‘what?’) with only a limited number of ‘why’ questions. Though science kits are mentioned in the manual, our observations showed that these were hardly used by teachers. Use of a chart or a model (e.g. bird) was suggested in a number of activities. The second half of the Master Trainers manual contains assignments (that seem more like activity-sheets) for the Trainee Teachers. The referencing and linking of these assignments with the topics is limited and the nature of the assignments is much more recall and factual-knowledge-based rather than thinking-based. The instructional materials are mostly ‘product-oriented’ and not ‘process-oriented’ and therefore reflect the development of basic level thinking.

The manual for Trainee Teachers contained mainly supplementary readings. These focussed mostly on biological concepts. There is hardly any material on physical science, earth science and environmental sciences. Furthermore the assignments were not pedagogically linked or referenced to the Master Trainers’ Manual. The content level seems to be at Matriculation level or above.

The level of the training content was very high. Content for Science and Maths was quite advanced from the primary level course content and such formulas of Chemistry were taught which are actually related to the course content of secondary level classes. (Interview, Trainee Teachers, 30 Oct 2003).

Material development for the English language programme was primarily the responsibility of a group of eight Secondary School Specialist (SSS) teachers from the former Directorate of Staff Development and the Provincial Institute of Teacher Education (both now incorporated into the University of Education).

Our data suggest that the process followed to hire material writers was not as systematic and based on explicit selection criteria as it might have been. During the interview, we were informed that piloting or pre-testing of material was done, but no substantial evidence was found for this. The writing of instructional materials is a special and professional job which cannot easily be done by a

group of staff without appropriate experience or guidance. For such tasks, the writers must possess relevant qualifications, experience and mastery over the subjects. According to the University of Education's Vice Chancellor, the criteria for hiring the resource persons included overseas training, professional qualifications and competency in content knowledge with preference being given to PhDs. It was found that only one week was allocated for materials development in the English language programme. Given this, it is perhaps not surprising that the material writers relied more on existing and available materials rather than on developing innovative and creative new material.

The instructional support materials were Primary Textbooks 'English Step: 1 – 5'; a 'workshop manual' for Master Trainers and a manual (aligned with the textbooks) for Trainee Teachers with model lessons for classes 1 – 5 (on average, 5 lessons per class). All materials were written in English. The material focussed mainly on 'model lessons' based on some selected lessons. The criteria for the selection were not spelled out and Key Trainers did not have any clear response to this question. Key Trainers made Lead Trainers prepare 'model lessons' on the basis of other lessons from the textbooks of their own choice. Lead Trainers in turn asked Master Trainers to prepare and present 'model lessons' based on the same format that they learnt from the Key Trainers. Master Trainers used mainly the already-prepared manuals while training primary school teachers. Some inconsistencies were noted in the two manuals. These included inconsistency in the lesson plan format, unavailability of Urdu translations of some 'model lessons', and inconsistency in objectives. The layout, design and organization of materials were perhaps not as professional as they might have been. Generally, the material was not found 'user friendly', participatory, interactive, thought provoking and reflective. The manuals were not attractive and were not based on self-directed learning principles.

Our overall conclusion is that the resource materials generally reflect a transmission orientation to teaching and learning. They are teacher-centred rather than student-centred and activity-based. It is not surprising therefore, that Trainee Teachers' and Master Trainers' responses to interview questions like 'How were you taught?' and 'What do you understand by activity-based learning?' were predominantly of the style:

- 'We sat in classrooms like students do in schools';
- 'The teacher gave lectures, showed us some models or did activity shown in book...we made notes';
- 'Activity-based is to show chart, bring plant in class and show and tell about the plant rather than just looking at pictures in the book'; and

- ‘Bring in model and show. Then tell parts of a bird’.

These indicate or suggest severe conceptual limitations in the programmes which would certainly hinder the accomplishment of the intended programme objectives.

(f) *Approach to teaching.*

During the interviews it was claimed by the trainers that teaching had departed from the ‘traditional mode’ and that there was a premium on ‘activity-based’ learning at both Training Centre and classroom levels. Our findings reveal that this was not so. In most cases the lecture method was the predominant approach; audio-visual aids were limited to a few desultory posters; and kits were hardly used at all. As one Master Trainer described it:

We (Master Trainers) usually used blackboard for explaining the concepts. We used lecture based methods to explain the concepts. We were not provided with any teaching kit or resource materials. Therefore we asked teachers to bring posters and some other materials from home (Master Trainers Interview, Nov. 2003).

Master Trainers (English language) were often observed simply reading out sentences from the training manuals during their teaching at the Training Centres. The ‘lecture method’ was clearly the norm at most centres, and interaction and questioning were not being encouraged.

The organization of the programme was such that it required the participants to present ‘model lessons’ or ‘presentations’ and give/receive feedback. However, there was no evidence of use of any classroom observation tools and the Master Trainers perhaps lacked the professional skills for this. Although one of the important aspects of the programme was enhancing teaching methodology of the teachers, the programme seemed to omit the very important topic of classroom management skills.

It became apparent that the programmes in English language, mathematics and science, were based on standardized approaches rather than upon strategies for making the programmes responsive to the needs of the beneficiaries. The programmes were more product-oriented rather than process-oriented.

The ‘lecture method’ was the norm in virtually all the training centres. Some use of audio-visual aids and supplementary materials stimulated greater interest in the programme. In many centres, the use of English was minimal and the programme was conducted either in Urdu or in the mother tongue.

(g) *Monitoring / follow-up during and after the programmes.*

The University's management seems to be aware of the importance of monitoring and evaluation. However, due to the hectic and rushed schedule of the professional development programme for a large number of primary school teachers, it became problematic for them to engage in monitoring and follow up activities and there appeared to be no in-built mechanism of monitoring and follow-up of the three programmes. However, some visits were carried out by the University management and the Department of Education of Government of Punjab and the engagement of the staff of Colleges of Elementary Teachers and district supervisory personnel in the monitoring process seems to have worked well. But we still judge that lack of follow-up and monitoring was one of the major weaknesses of the programmes.

DSD people did not carry any monitoring by themselves; however they engaged elementary college Principals for monitoring but they usually put very strange questions during their visits, therefore some conflicts also arose between us. (Interview, Master Trainers, Sept 2003).

It was a demerit of the training that no proper monitoring mechanism was in place. (Interview, Key Trainers Sept 2003).

Research studies conducted in the context of school improvement suggest that follow-up and support can make a major impact on teachers' and students' learning (Pakistan National Education Foundation, 1998; PEP-ILE, 1998; Memon and Mithani 2003). However, there did not seem any systematic follow up or on-the-job professional support to the teachers in this programme. Some limited efforts were made by the University and these could have been complemented by input from district management and supervisory personnel. Such follow up support, if provided to the teachers on-the-job, would most likely have added to the applicability of new knowledge and skills and to increased teacher confidence and motivation

3. Programme impact: what was the impact of the training?

(a) *Impact outcomes.*

For a preliminary assessment of programme impact a small sample of 20 schools from two districts was randomly selected. Classroom observations of teachers and interviews with them and their students (in small groups) were conducted in eleven boys' schools and nine girls' schools.

There was very little evidence of any new approaches being used by teachers of English, mathematics and science in the classroom. Reliance on the textbook and rote learning remained the core approaches to pedagogy. The blackboard continued to occupy a central place in communicating textbook information to the students. Charts and posters were visible in some classrooms but they were not used for teaching. Models and other teaching aids or kits were not in evidence.

The strategies and methods applied by the teachers in almost all schools were common and traditional i.e. teaching through lecturing, rote learning and memorization ... Teachers depended only upon teaching through the blackboard and textbooks and none of the observations showed that the teachers prepared or used charts, posters ... (Observation Report, Oct 2003)

Students remained passive recipients of information provided by the teachers and were discouraged from asking questions. Teachers were observed giving directions to read, write or copy but no efforts were being made to motivate or explore the students' previous knowledge. Failure to engage students in an active learning process was reflected in the harsh behaviour of the teachers who gave corporal punishment and often shouted at students in a number of the schools visited. This was observed to happen more in the boys' schools. Name-calling and physical punishments appeared to be the norm in many of the schools. However, female teachers were seen to be more friendly and painstaking in their interaction with the students with only one or two resorting to physical forms of discipline.

...some of the teachers lost their temper at the end of the class and intimidated the students by slapping or shouting at them. The teachers were of the view that this is the only way to control the students. Except for one teacher, none of them opposed this trend. There was clear discrimination observed among the intelligent and slow-learning students. The teachers termed them as 'Laiq' and 'Na-Laiq' students (i.e. intelligent and dull students). This identity of the students and the trend of punishment seemed digested by the students and they did not feel anything wrong while calling themselves with these titles. They said the teachers attribute the students with same titles. The students shared very ugly feeling about the punishment on probing. Initially they said that the 'Na-Laiq' students deserve the punishment but later on after probing, they said no students should be punished and in case of any ill-response from the students, their parents may be contacted or the students

may be treated politely. For about all the teachers, students complained for punishment with the stick or physical threat.

(Observation Reports, Oct 2003).

The teaching of English, while accepted enthusiastically by the trainees is of poor quality. Incorrect spellings, poor pronunciation and translation by way of explanation and poor teaching methodology were common to nearly all teachers observed.

In the teaching of mathematics and science, some teachers were observed to supplement the information in the textbooks with real examples from daily life.

Teachers continued to find it difficult to teach mathematics. Inaccuracies were common resulting from faulty textbooks and from errors in the transferring of sums and exercises from the textbooks to the blackboard. Some teachers still used guidebooks in the absence of any other support materials.

Majority of the primary school teachers did not have knowledge of basic concepts of Geometry. For instance they did not know about divider; they were unable to draw angles and the triangles. Of the 50 teachers, only 3 or 4 teachers had some knowledge of these concepts. (Interview, Master Trainers, Sept 2003).

There was little evidence of activities which focused on students' outside-class needs (for example, brainstorming on issues, questions about their own surroundings).

Some of the 'model lessons' did not seem to provide adequate guidance for teachers.

Common to all schools and to the teaching of all subjects was the failure of teachers to (a) plan lessons; (b) use activity-based teaching methodologies; and (c) correct the work done by students at home or in the classroom. It was not possible to ascertain whether this was due to short contact time or lack of teacher expertise.

The teachers had various opinions regarding the use of teaching aids. Some teachers regarded it as the duty of the government to provide them with charts and various teaching aids. Others did not even consider using teaching aids and other important materials in their teaching and felt it would take longer to use activity-based approaches.

Most of the teachers felt they were confident about their content knowledge and teaching abilities while being unaware of the incorrect information they were giving to the students. However, they did feel the need for continuous training and classroom support. They also shared that there was no supervision, monitoring or follow-up of the training.

The professional development approach of the programmes seemed to be about transferring a quantum of 'knowledge' or 'content' from trainers to participants rather than sharing with participants ways and means that would help them learn on their own. The majority of schools used traditional teaching methods. Hence, it was not possible to detect improvement as a result of the programmes, either in terms of methodology or content. Sometimes there was a reference to strategies or resources like group work and charts but they were hardly being employed in classrooms. There was no baseline data available to ascertain enhancement of the content knowledge among teachers. Pre- and post-tests did not seem to have served their intended purpose.

The classroom observations suggest that no substantial difference has been made to the quality of teaching in English language, mathematics and science at the primary level. There is continuing poor performance of teachers (although with some notable exceptions).

The majority of teachers shared their strong sense of dissatisfaction with their professional development programme. They saw it as having been conducted as a 'single shot' or one-off activity by those who did not have enough confidence, knowledge and skills in their own respective subject areas. Most teachers said they did not find anything new in their mathematics and science programmes and that the programmes did not add any value to their knowledge, understanding and skills. The majority of primary school teachers in English language area felt they did not benefit from the programme because of their own and their trainers' language skills and competencies.

(b) Contextual issues that might affect impact.

The programme was compulsory but the majority of teachers perceived it as 'coercion'. This meant that many of the Trainee Teachers attended through obligation and with some resentment. Hence, only the exceptionally motivated and interested Trainee Teachers gained maximum benefit from the programme in such circumstances.

Much of the programme was conducted during the most humid and unpleasant part of the year and this negatively affected Trainee Teachers' active participation. The majority of the Training Centres had poor facilities (e.g. water, furniture, no fans, no light, no proper ventilation, and lack of cleanliness. Some Training Centres had extremely poor or bad facilities, totally detrimental to learning.

The majority of teachers did not seem happy with the location, or physical facilities of their Training Centres. They thought that the summer season was not the 'right' time for conducting such teachers' professional development programmes.

A daily allowance of Rs.10 for refreshments was too low. Moreover it was not even disbursed on time. In some centres, the centre Coordinators spent their own money in the hope of being reimbursed. Coordinators at other centres simply refused to provide any refreshments to the Trainee Teachers, leaving them to their own devices. In the mathematics/science programme there was no provision for refreshments and TA/DA was reported to be lower than in the English language programme. However, even then the English language course participants still felt that their TA/DA was too low.

The English language programme went on continuously without a break even on Sundays which was claimed to have negatively affected the motivation and learning capacity of many trainees. Some active and passive resistance was noticed among the trainees.

In most of the Training Centres, the training manual and necessary stationery were not provided to the trainees.

(c) Pedagogical and content issues that might affect impact

The majority of the Master Trainers themselves lacked adequate knowledge of their respective subjects and they perhaps therefore gave over-emphasis to 'methodology' to the detriment of 'content'. Thus, there was an imbalance between content and pedagogy. As our analytic notes record:

The selection criterion of Master Trainers was not strictly followed, as in some cases simply graduate teachers were appointed as Master Trainers. In many instances the trainees emphasized that Master Trainers were not able to reply to questions other than in their area of specialization e.g. Maths subject Master Trainers were unable to respond to questions

regarding Geometry or Arithmetic, as they used to teach Algebra in their schools. (Mapping analysis of the data, Sept. 2003).

The English language, mathematics and science programmes were compulsory for all primary school teachers irrespective of their linguistic and communicative competence in English language.

In many schools it was found that the teachers having qualification in Arabic or drawing were expected to teach Science, Math or English. Most of the trainee teachers complained during the training that they have never taught Math or English subject in their schools and, furthermore their headteacher asks them to teach Social Studies or Islamic Studies. (Interviews, Master Trainers and Trainee Teachers, Sept. 2003).

One objective of the programme was that all primary school teachers in Punjab should become better teachers of English. This is a laudable objective given the fact that a large percentage of government primary schools lack English language teachers. However, there is probably no ‘shortcut’ to fill this major gap. It has to be recognized that not teaching English is not a matter of preference or choice but is dependent upon language competence. Also, there is an element of prestige as far as teaching English language is concerned, so even those with a rudimentary knowledge are likely to come forward to do so.

Discussion and recommendations

A sense of urgency with regard to the deteriorating standards of education prompted the Punjab government to make a huge investment in quality improvement in education. The total cost of the language training so far has been estimated at Rs.170 million while the cost incurred on the science and mathematics programme was approximately Rs.110 million. Thus, over a quarter of a billion rupees has been spent on these programmes but with little evidence of even marginal differences being made to teaching standards in classrooms.

One approach open to us as reviewers is to assume that similar courses will run in the future, to attempt to analyse why the particular courses had some difficulties and therefore to make recommendations about the specifics of how to do it better. Another approach is for us to step back from the programmes under review, to do this in a setting of general statements and principles about effective teacher education and development, and attempt to offer the Punjab government and its implementing agencies some general approaches to improving educational quality in that province. We do both here. It is our judgement that it is not enough to critique what has been done—it is not enough to assert that what has been done could have been better. We need also to ask whether the right things have been done. It is only if the right things are being done in the most effective way that long-term and sustainable change will occur.

We begin with one suggestion for the likely attributes of effective in-service programmes for teachers (Craig, 2003).

‘Effective in-service programs tend to:

- focus on concrete and specific training for instructional and management practice;
- are appropriate to the current needs of the teacher;
- involve teachers and other staff in the planning and implementation of both short and long term activities;
- include small group workshops, peer observations and feedback, coaching/mentoring, and demonstrations;
- ensure implementation in the classroom of the acquired learning;
- provide continuous guidance and support (head teacher, peers and other teachers)
- have the support and participation of the head teacher and other school leaders;
- enable participation through release time;
- provide regular meetings for problem solving, often within a school cluster;

- fit within the context of the local community and school culture; and
- fit within the broad, long-term professional development and school improvement program.’ (p. 3)

Sadly, it is clear that the University of Education’s programmes in the Punjab cannot be said to match these attributes. Indeed, a harsh critic might argue that none of these criteria has been clearly met. Thus, we begin with some specific suggestions that might be adopted if similar programmes are to be run again by the same agencies and in similar ways.

Recommendation 1: The University should create a high level programme review committee to ensure that its programmes are of maximum possible quality and relevance.

The purpose of the proposed committee is to engage with the difficult task of ensuring that the University’s programmes are of the highest quality and relevance. The committee should review all teacher education and teacher professional development programmes proposed to be run by the University and should subject them to rigorous review and evaluation. Because of its dual role (quality and relevance), the committee should have membership from both inside and outside the University. It is particularly important that the committee should involve both teachers and employers (see Recommendations 3 and 4 below), as well as academics in education from institutions such as the University itself, the Institute for Educational Research of the University of Punjab, Colleges of Education, Colleges of Elementary Teachers, PITE, and PEACE.

Recommendation 2: The University should initiate a process of external review and evaluation of all its offerings so as to develop the highest international quality of its programmes and faculty.

The best universities of the world recognize that their own faculty may face a substantial conflict of interest in the evaluation and quality control of their own programmes. Therefore, they initiate and rely upon regular programme reviews carried out by external experts. These should not be seen as ‘inspection’ or ‘policing’ of the University’s programmes but rather as a collegial exercise of immense importance both to the quality of internal programmes and to the professional development and growth of faculty.

Recommendation 3: The University should develop partnerships with teachers so as to assist in the professional development of the teaching workforce.

Earlier in this report we identified needs assessment as an area of weakness. This negatively affected the quality of the programme content and led to an inappropriate uniformity of offerings

in a setting of diversity of needs. Subsequent to that we noted some of the contextual issues that militated against teacher involvement in and ownership of the teacher education programmes. Worldwide research has regularly and repeatedly shown that genuine teacher involvement (and indeed teacher participation in delivery) is an absolutely necessary prerequisite for successful teacher professional development. We urge the University to take major actions in this area so as to ensure strong, continuing and deep teacher involvement in its programme development; programme implementation and programme monitoring and evaluation.

Recommendation 4: The University should assist Government and especially the Education Department in developing mechanisms for holding the University accountable for its professional development programmes, their success, relevance and impact.

We do not intend this recommendation as a threat to proper University autonomy. However, we do assert both that universities and their constituent agencies must never confuse autonomy with licence and that government or any other sponsoring and fee-paying agencies must have ways of holding universities accountable for the actions they perform in exchange for targeted funding. In the case of teacher education and teacher professional development, there is an obligation for the university or any other implementing agency to deliver to specification. Such accountability may be achieved in a variety of ways. These could include:

- legislation in the case of public universities with specific missions;
- control of entry to professions through proper standards-setting and professional control of entry to the profession; and
- more stringent monitoring and evaluation of grant funding to ensure that performance standards are met.

We note that governments should also accept an obligation to support their universities in gaining an autonomy and independence in judgement that is essential to their development as universities of the highest possible international quality. Thus, this is not an argument for greater government interference in universities; it is however, an argument that those who pay for programmes and for programme delivery should be entitled to set standards of accountability for these programmes.

Recommendation 5: The University should adopt a ‘teaching as life-long learning’ perspective in the design of all its teacher professional development programmes.

All round the world, teacher education institutions have recognized that teacher growth and development is an ongoing, continuous, and life-long process. This perception, of teacher education as a continuum, has been strengthened by globalisation and a recognition that the pace

of change in our national and international communities is so fast that retraining must occur in every profession. Teaching is no exception to this.

Recommendation 6: The University should take especial care that its programme lengths match its programme objectives.

One of the major concerns of the teacher participants in this study was that their two-week-long programmes were inadequate to allow appropriate coverage of the materials. We concur with this judgment. We judge that the attempt to cover both content knowledge and pedagogical skills and knowledge in the space of only two weeks was too ambitious. The University, perhaps through its programme review committee, might insist on pilot-testing of proposed programmes before approving their proposed lengths.

Recommendation 7: The University should develop a coherent and integrated strategic plan for its programmes for the professional development of teachers.

This recommendation, in its focus on the long term, is consistent with and complements Recommendations 5 and 6. The particular stimulus to this recommendation was our perception (shared by many of those involved) that the planning and implementation of the teacher education programmes was carried out on a 'war-footing'. That is, we observed a top-down approach in which instructions were given by a central controlling authority so as to ensure the compliance of those involved in offering quick-fix solutions to problems of teacher deficit. Again, it is our interpretation of world-wide research that a more carefully thought-through approach, involving a developmental rather than deficit view of teachers is currently seen as a far more effective approach to teacher professional development as well as incorporating a much more humane treatment of the participants. Further, we judge that a process of explicit strategic planning will assist in developing the accountability mechanisms suggested under Recommendation 4.

Recommendation 8: The University should develop a coherent and integrated strategic plan for the development of its faculty.¹

We hope that this Recommendation is self-explanatory. Universities of quality employ quality faculty. Quality faculty cannot be created overnight nor, in the current Pakistani market-place, can quality faculty readily be found outside the institution. Therefore it is probably essential for the University to develop its own faculty and this should be addressed as an issue of great priority through the mechanism of a strategic plan covering both the short- and long-term.

Recommendation 9: The University, in conjunction with the Department of Education, should explore possible mechanisms for large scale English language training, perhaps using resources outside their own.

It became very clear that the English language teacher education programme would, of necessity, fail with many of the participants. This was because these participants themselves simply did not have sufficient English language competence. Any programme for improving English language teaching skills must ensure that its participants are competent in that language. The University may benefit from programmes such as the Aga Khan Education Service, Pakistan's successful Language Enhancement and Achievement Programme (LEAP) in the Northern Areas of Pakistan. In addition, assistance may be sought from other agencies offering English language programmes in the hope that a long-term solution might be identified for a large capacity-development problem.

¹ We note that the University of Education, was created only in 2002. Currently, in Lahore the University has 36 faculty members including 5 faculty with PhD qualifications and 5 faculty with a PhD in Education. In its constituent institutions the number of faculty is 774 and all of them have Masters degrees. The UoE Lahore offers the following suite of programmes:

<i>Programmes</i>	<i>Enrolment</i>
<i>B.Ed (1 year)</i>	9956
<i>B.Ed – In-service (2years)</i>	33
<i>B.S.Ed (3 years)</i>	255
<i>M.Ed. (1 year)</i>	664
<i>M.A (Education) 1 ½ years</i>	727
<i>M.Sc (Education) 1 ½ years</i>	23
<i>M.Sc (A-level programme) 1 ½ years</i>	22
<i>M.Sc Education – Assessment and Evaluation 1 ½ years</i>	64
<i>Ph.D. Education (4 years)</i>	181

This is an ambitious suite of programmes. The qualifications of faculty do not seem to match the range, diversity and level of programmes. That 181 PhD students are enrolled in a two-year-old institution and one with only ten doctorally-qualified faculty is especially surprising. We may contrast this with the experiences of AKU-IED. Although AKU-IED's programmes have become internationally recognized and it is targeting two-thirds of all its faculty having doctoral qualifications within two years, it, as an eleven-year-old institution, plans to offer its first Ph.D programme only in 2005.

Recommendation 10: Any future implementation of a cascade model must systematically address the known weaknesses of such models.

The educational literature reports more failures with cascade models than successes, and the weaknesses of such models are well known. In particular, the strength of a cascade model is only as good as the weakest link; there are immense dangers of dilution or distortion of the knowledge and skills being transmitted; and therefore, cascade models require highly effective monitoring and evaluation. It is clear that the programmes under review did not succeed in addressing these. Thus the intended ultimate beneficiaries, the classroom teachers, did not benefit greatly from the programme offerings. (We address the issue of choice of models in the next section of this discussion)

Recommendation 11: The University of Education should apply rigorous and criterion-based selection procedures in selecting training personnel for its programmes.

In this evaluation study we identified clear weaknesses in the trainers' knowledge, skills and competence in their respective subject areas. We also briefly mentioned research that suggested that trainers lacking a deep understanding of their subject area were particularly ill-equipped to transfer their expertise. Programme trainers must be well versed not only in the content areas but also in their pedagogical skills and must be selected accordingly. Criteria for appointment to training positions should be developed and applied. There should be no compromise on the quality of staff being employed to run quality programmes. If appropriately qualified staff cannot be found, then they must be developed. In a case like the recently completed programmes, there could, for example, be an intensive programme for the professional development of Master Trainers in content knowledge, pedagogy and andragogy, classroom management, assessment practices, action research, reflective practice, constructivist approaches to teaching, and low- and no-cost approaches to materials development.

Recommendation 12: Materials used in training programmes must be chosen or developed to meet their intended purposes and to be of high quality.

In a setting such as Pakistan where teaching is heavily teacher-centred, textbook-based and follows rote-learning practices, the need for good instructional materials is particularly high. Teachers must be enabled to move beyond mechanical transference of instructions and a reliance on the single textbook as the only book of authority. High quality material will assist them considerably in this.

Recommendation 13: The University should explore alternative approaches to the delivery of teacher education and professional development (e.g. distance education, online delivery or online assistance).

Perraton (2000) has described distance education approaches to teacher education in developing countries and has concluded that these approaches can lead to significant teacher change and learning. In the space of a few years we have also seen very substantial developments of online and e-learning and a much greater global availability of the technologies required to deliver them. The University should not see such approaches as a panacea to their problems of scale (for these approaches are not simple to develop and implement) but the University might consider preparing or commissioning an expert report on such alternative approaches to the delivery of teacher education.

Recommendation 14: The University of Education and/or the Department of Education consider ways of supporting the development of professional associations of teachers.

By associations we do not refer to teacher unions concerned with industrial or condition-of-service issues. Rather, we mean associations concerned with professional issues and particularly the professional development and growth of their memberships achieved through association activities. These professional associations and their networks can be powerful and self-sustaining professional development mechanisms. An initiative in this area might create new Punjab-specific associations or might involve working with such existing associations as the Mathematics and Science Associations of Pakistan (MAP and SAP); The Association for Social Studies Educators and Teachers (ASSET); The Pakistan Association for Inclusive Education (PAIE); the Association of Primary Teachers (APT), the Health Association for Learners Teachers and Health Workers (HEALTH); the Society of Pakistan English Language Teachers (SPELT) and the School Head Teachers Association for the Development of Education (SHADE). It might be appropriate that the University and the Department support these Associations in establishing local or Punjab-specific branches.

Recommendation 15: The University of Education in collaboration with the Department of Education consider ways of using exemplary classroom teachers or school leaders as professional developers.

Global experience suggests that one very effective approach to teacher professional development is when groups of teachers or schools assist each other in meeting their self-identified professional development needs. The University and the Department might contemplate ways of assisting such activities either financially, or through assisting networking, mutual school visits, and the

development of possible clusters of schools and teachers. Clearly, this Recommendation complements recommendations 14, 16 and 17.

Recommendation 16: Support and follow-up mechanisms for in-service activities should be implemented to ensure classroom application of teachers' course learnings.

This general recommendation is that the University and the Department should (perhaps together) develop ways of providing essential follow-up and support to in-service participants. The mechanisms for this might again be similar to those developed to meet recommendations 14, 15 and 17.

Recommendation 17: The University of Education should develop strategic plans with its resource centres and constituent institutions so that they can participate in providing effective follow-up and support to teachers completing or who have completed professional development courses.

Without effective follow-up and on-the-job professional support, teachers can quickly revert to their old routines rather than persisting with new practices that they may have acquired during professional development courses (Joyce and Showers, 1980). To assist with this the Federal Government (2002) has recommended the establishment of resource centres at district and tehsil levels to provide field-based professional support for teachers. The University has already begun to develop its network of resource centres. These centres can be seen as: a source of on-the-job professional support by supervisory personnel; as 'professional study centres' for teachers enabling them to share and learn from each other; and as centres engaged in developing learning materials. Craig (2003) alerts us that such centres will remain problematic if there is no clarity of purpose and on-going implementation support. Hence, we recommend that the University commence a strategic planning exercise with the resource centres and constituent institutions.

Recommendation 18: That the University of Education, in collaboration with the Department of Education, consider ways of being able to provide credible University certification for its programmes of teacher development.

The award of credible University certificates, diplomas and degrees can be an important way of recognising the extra effort that teachers put into further study. It can also be a way of contributing to the improvement of the teachers' status that we suggest below. We are not suggesting that this should be an automatic award for all who enrol in such programmes but that it should be based on some evidence of learning and achievement of pre-specified criteria which might include,

attendance, participation, satisfactory completion of assignments or perhaps completion of appropriate classroom-based follow-up work.

Finally, under the heading of **specific recommendations** we draw attention to the issues, recommendations and suggestions implicit in the Findings section of this report. Amongst these for example are the needs for:

- comprehensive needs assessments;
- clear and explicit programme objectives;
- clarity in any planned criterion- or challenge-testing (one of the planned uses of the pre-test in the University's programmes),
- a focus on student-centred teaching and learning methodologies, using a diversity of materials and resources, and demonstrating student-centredness both in the course content and in the teaching and learning facilitated by the trainers, and
- addressing and meeting different and diverse prior levels of competence, proficiency and skill.

In addition to these specific suggestions we offer some brief general points for consideration by the University and the Department of Education about how the issue of teaching quality might be better addressed in the province.

First, given the gravity and scale of the problem of educational quality in the Punjab, it was somewhat understandable that the provincial government and the University authorities decided to tackle some of the training issues on a 'war footing'. However, the winning of the war is not dependent upon the winning of one brief battle. We are firmly of the view that there is no 'quick fix' or set of ready answers to problems of educational quality in the Punjab and more generally in Pakistan. There are no simple, single recipes or remedies available. For many years Pakistan has been subjected to 'quick-fix', typically donor-funded, sometimes ready-made and imported solutions to indigenous problems. Sometimes, even the problems, as well as the pre-determined solutions have been identified by donors. The archetype of an educational development project in Pakistan has been that of a three- to five-year-long project with a sudden cessation and an entirely predictable subsequent wonder as to why it failed or was not sustained. We know by now that such projects and project approaches tend to fail but we seem to have attributed this to the role of the donor agencies rather than to the approaches themselves. Perhaps, we have not yet learned the same lessons for our domestically-funded, indigenous programmes. The programmes offered by the University of Education do seem to represent yet another manifestation of a one-off, 'quick-

fix', project approach to teacher professional development. Almost inevitably, the programme outcomes and impacts have not been nearly as positive as was hoped and as is required.

It is clear to us, both from our experience and from the educational research literature that quality improvement cannot be dependent upon such one-off interventions. Rather, success demands a long-term plan and a long-term commitment. A long-term plan will avoid 'quick fix' solutions but will use a variety of approaches to meet a variety of needs. These needs themselves are both long- and short-term and thus so are the solutions. But also, these needs are diverse and varied and so too should be the solutions. Multiple approaches and methods are required; both long- and short-term planning and implementation are required; political will and commitment are required as are a commitment to the ongoing and continuous professional development of teachers; a need to recognise and raise the status of teaching and to involve teachers in their own professional education and development.

There are already in Pakistan a few scattered examples of successful teacher education and development initiatives (e.g. the GTZ-funded, PEP-ILE project in NWFP; the Punjab's own Middle Schooling Project; the field-based teacher education initiatives of the Aga Khan Education Service in the Northern Region of Pakistan; the USAID-funded and AKU-IED implemented NGOs/CBOs capacity-building project and perhaps, the as yet unproven but promising USAID-funded ESRA programme of Whole District development initiatives). In addition, there are scattered examples of universities of excellence in Pakistan with the Aga Khan University's Institute for Educational Development in Karachi and its Professional Development Centres in Gilgit and Chitral being now perhaps the only example in education. We need to be able to learn from these initiatives and institutions, not only in the sense of specific lessons about approaches to, and models for, teacher education but also in a more general sense. Among these important general issues are:

- teacher education matters. It matters in the sense that it can lead to increases in the quality of education enjoyed by our students. It is a simple but powerful truism that the quality of our schools cannot be higher than the quality of teachers in them. It is equally a truism that the quality of our teachers is dependent upon high quality teacher education and professional development opportunities. It follows as a truism that we must increase the quality of pre-service teacher education as well as enriching opportunities for significant and continuing in-service professional development;

- a variety of teacher education and development models can be effective in the context of viewing teacher education as a continuum extending across the professional lives of teachers;
- the importance of educational leadership and the role of school principals as educational leaders need to be recognised. The professional development of leaders could readily take some priority over other professional development needs thereby contributing to a pool of possible teacher educators from within the profession;
- the development of better quality resources, materials and textbooks is of critical importance for, until we can carry out the long-term development of many, this might assist as a short-term palliative and as one of the few resources for classroom teachers for some time to come;
- there is a need to bring all the significant players in education and teacher education (Ministry, Department, Universities, Colleges, Schools, NGOs, Curriculum Developers, Textbook Writers, Examination Boards) to the one ‘table’—that of quality improvement in education and to keep them there. Only government agencies can ensure this;
- we can learn from our accumulated experience of teacher education and development and from the research literature surrounding teacher education. We therefore need to enable, foster and maintain these scholarly processes and high quality research activities so as to feed into policy development and practice improvement;
- the quality of the people in teaching and teacher education matters and therefore tasks of human resource development; of rigorous selection, long-term retention and development of a critical mass of teacher-educators or trainers from the profession are both urgent and of high priority. Whilst the education sector in Pakistan has already undertaken substantial human resource development with the assistance of donor funding, once projects cease these resources tend to be dissipated; and thus
- we need to enable the development of apex teacher education institutions, particularly in the public sector in Pakistan; and
- we need to professionalize and raise the status of teaching both by addressing the rewards, both explicit and implicit, of being a teacher (and of being a teacher educator), and by addressing and raising the quality of entrants to teaching (and teacher education); and further
- there need to be mechanisms for coordinating responsibilities across both provincial and district levels so that full advantage is taken of the devolved authorities of the districts and of the province’s simultaneous ability to coordinate at level beyond that of the districts (which may be particularly applicable to teacher education)

One of the tragedies of teacher education in Pakistan has been that the Provincial Institutes of Teacher Education (PITEs) have not been able to develop or be developed as the apex teacher education and development institutions that were intended. It is such apex institutions (not necessarily PITEs) that will enable or allow the addressing of many of the issues identified above. *In the case of the Punjab, we believe that there should be a vigorous debate about the University of Education; its future role and development, and how it, or some other institution should or could become an apex teacher education institution in the Punjab. Without such a scholarly institution to provide leadership, guidance, policy analysis, critique, and high quality teacher education and development, the infrastructure to ensure effective teacher education and development in the Punjab will be severely hampered.*

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Appendix 1: Elaborated specifications for the Evaluation Study from the Request for Proposals, pp. 1-2

In assessing the delivery of the in-service teacher training programme, the study should address the following:

- the approach of the training programme, including its duration, frequency, structure, expectations (in terms of acquired competencies), numbers of involved people (at different points in the cascade system);
- the process of planning and developing the in-service course, including conducting the needs analysis, developing course materials and selecting teachers to engage with the training;
- the appropriateness of the training and course materials to the teachers' needs and the teaching environment including those that present more challenges to teachers (e.g. those with little space, poor ventilation, storage, furniture);
- the balance of pedagogy with content;
- the quality, accuracy, relevance and availability of the training materials and teacher guides;
- the management of the cascade training (e.g. enrolment, attendance, managing TA/DA, any monitoring or tracking of training taking place at the school level);
- the quality of the teaching (instructors' competence/motivation) and learning (the active participation of trainee teachers) at the training sites; and
- teachers' opinions about the value and adequacy of the programme and the ways in which it could be improved.

In assessing the **impact** of the training programme the study should address:

- the extent to which teachers have adopted different approaches in the classroom;
- teachers' opinions of the factors that contribute to the teachers' continuing or diminishing use of new practices, and their opinions about the factors that affect the success of using different approaches; and
- unexpected effects of the training programme in terms of pedagogy, teachers' considerations of their own capacity, the formation or use of networks established during the training.

In making **recommendations** about strategies for teacher development, the study should consider:

- ways to coordinate of [*sic*] the University of Education network with the existing structure of local government to make a single teacher development support system;
- the opportunities to use networks of primary/elementary teachers to support learning between teachers so as to complement the in-service training programme;
- ways that using teaching resource centres could be built into the programme; and
- how learning coordinators (or other union level education officials) could be involved in the programme.