The Silent Revolution: Rethinking Teacher Education in Pakistan

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A silent revolution in teacher development is underway for the last three decades in Pakistan through various reform initiatives including: changes taking place in teacher preparation programmes; performance-based approaches to licensing and accreditation being reconsidered; and establishment of National Accreditation Council for Teacher Education (NACTE) for ensuring quality of teacher education programmes. Reforms that invest resources in teacher learning and give teachers greater autonomy are the best hope for improving a country's schools (Darling-Hammond 1995).The study reported in the paper explores the amount of resources invested in teacher education preparation institutions of Pakistan to facilitate the reforms in higher education. It also responds to the question; are the resources (investments) provided to public sector institutions correspond to the requirements of the newly proposed standard based teacher education degree programmes. Data were collected through a survey questionnaire from the teacher education departments of 21 public sector universities across Pakistan. A large part of the data reported in the study was also collected from secondary sources including reform reports. The data reveals that majority of teacher preparation institutions are not only deficient in terms of infrastructure, human and knowledge resources to respond to the proposed reforms but also necessary measures have not been ensured by the reformers to support and sustain the outputs of these reforms. The study concludes that necessary resources and support mechanism should be ensured to support the reforms to get benefits from the revolution.

Introduction and Rationale

Reconstruction and development of societies as perceived and planned by the philosophers and development professionals can see the face of reality only if these are merged in the educational process by teachers and incorporated in the plans and ideals of the students in their care (Darling-Hammond, 1995). It is universally recognized that variations in teacher effectiveness are important determinants of differences in school quality (Hanushek & Woessmann, 2010). That is why the contributions of teachers in the building of nations are well acknowledged by social reformers and planners. Research now confirms that improving weak teaching may be the most effective means of raising school quality across the developing world (Glewwe & Kremer, 2006). In fact, the key player in every educational system is the teacher, who is considered the backbone of entire system, and a pivot around which the whole education system revolves.

Therefore, teacher education is a crucial part in educational change and development. Efforts are being made globally to improve teacher education programmes and enhance teachers' professional development. It is important that teachers are equipped with proper knowledge, skills and dispositions in carrying out the goals of education and fulfilling their obligations.

Teacher education in Pakistan has been facing various challenges such as lack of consistent policy, inconsistency in curriculum, low resources, lack of quality teachers, low quality of teaching process, lack of standards, etc. (The British Council, 1988; UNESCO, 1990; Farooq, 1994; Ali, 2006; Saeed, 2007; Haider, 2008; Council on Foreign Relation, 2011; Bilal & Khan, 2012). Today, a range of public and private institutions are engaged in preparing school teachers. In Pakistan, like many other countries, public institutions are the main source for developing teachers through pre-service and in-service programmes. There is large numbers

of reports, situation analysis or position papers that have looked into teacher education in Pakistan. An overview of the existing literature consisted of government reports, policy documents, independent studies, several documents produced through donor funded projects, etc. identify the gaps that apparently exist in the current discourse on teacher education in Pakistan. The literature reflects a broader consensus on the issues and problems that hamper improvement in teacher education in Pakistan. Many studies in this field have raised the question on the quality of delivery mechanism of these institutions and the quality of their graduates. Nonetheless, in these studies relatively less attention has been paid to look into the resources (investments) needed that are necessary to ensure quality of delivery mechanism of teacher education institutions *vis-à-vis* the improved quality of their graduates.

Context Setting

It is widely recognized that generally the education being provided by the public sector institutions in Pakistan has been of poor quality due to a large variety of factors. The notion of 'poor quality' of education is characterized by multiple indicators. However, at a fundamental level, it is concerned with the ways in which children are made to learn, as the environment within schools and classroom pedagogies do not encourage children to engage in in-depth cognitive learning and use their own judgment and exercise their critical abilities in efforts to understand what it all means to learn what is presented to them in the school. The person who controls classroom pedagogies is 'the teacher'. A good teacher makes a difference. Therefore, demand for high-quality teachers cannot be met without high-quality teacher education (Chong and Ho, 2009). Recent evidence-based research has shown that the good teacher is a significant factor in improving the chances for success for all students (OECD, 2005; Strong, 2007). Programmes for improving teacher quality are seen as essential for education reforms.

Sufficient literature on teacher education in Pakistan focuses attention on a wide array of issues, and challenges at both macro and micro levels confronting teacher education in Pakistan (Government of Pakistan, 2002, Jamil, 2004; Academy for Educational Development, 2005; UNESCO, 2008; Barber, 2010; USAID, 2012).

Currently, in Pakistan, around 300 teacher education/training institutes exist in public and private sectors and offer a variety of teacher education programmes ranging from primary school certificate to PhD in Education (MoE, 2009; USAID & UNESCO, 2009). Arguing that quality of teachers at public institutions is unsatisfactory, the National Education Policy2009 observes that "poor quality of teacher in the system in large numbers is owed to the mutations [forms] in governance, an obsolete pre-service training structure and a less than adequate training regime" (Government of Pakistan, NEP 2009, p.42). The policy observes that governance is poor, in disarray and needs a total overhaul. On the governance side, the problems begin with non-meritocratic recruitments as a significantly large number of teachers, presently in active service, were selected without merit on the basis of quotas given to political persons. Some of them took advantage of communal links while others owe their jobs to bribes paid to the quota holders or their intermediaries. These teachers are, in most cases, of poor quality. Teacher absenteeism has become a very common phenomenon in recent years. Some of them are permanently absent. These can be located as managers of the local landlords, guards of the ministers or abroad – the term used is 'on visa'. Those with connections can be transferred to the place of their choice. Others are victimized. Without meritocratic recruitments, transfers and postings, the failure of the system is inevitable. The system functions mostly for the politically connected, the bulk of teachers remain a voiceless lot. PTC[1], CT[2], and lately Diploma in Education were obsolete in the sense that the curriculum of these courses did not have any connection with the school curriculum which witnessed drastic changes with the changes in the global setting. This disconnect made the teacher education curriculum at pre-service level an obsolete having no relevance with the requirements of the school curriculum. The trainings being given were not well structured and well organized. These issues forced the decision makers at policy level to revisit the entire teacher education programme, which was actually a warning about of the initiation of silent resolution. The policy further highlights the issue by

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1 Primary Teaching Certificate (a certification that was used to be required to teach at classes 1-5)
2 Certificate of Teaching(a certification that was used to be required to teach at classes 6-8)

disclosing presence of incompetence in such a huge quantity and permeation of malpractices in the profession which have damaged the once high position enjoyed by teachers under the eastern cultural milieu.

The organization, management and financing of teacher education in Pakistan present a diversity of interesting structural models which triggered the hushed revolution in the teacher education sub-sector. These structural models could be visualized in the reforms that have been brought to improve the condition of teacher education in the country. The moment was started by departing from the traditional teacher certification course like PTC, CT [replacing Junior Vernacular (JV)/ Senior Vernacular (SV)], Diploma in Education (replacing PTC and CT) to degree programmes like BEd for primary and elementary school teachers. Since then efforts are being made to transform teaching as a profession and it has begun to engage in serious standard-setting as a result of framing 'National Professional Standards for Teachers in Pakistan 2009' and encouraging institutions responsible for teacher preparation and professional development to follow them in their programmes[3]. At the time of emergence of Pakistan, Normal Schools offered a nine-month teacher training course named as Junior Vernacular (JV) and afterward Senior Vernacular (SV). Oriental Teaching Certificate (OTC) and Art Teaching Certificate (ATC) courses were also introduced with almost the same duration. After some years, the SV and JV were replaced by a 48-week course of Primary Teaching Certificate (PTC) after Secondary School and a course of Certificate of Teaching (CT) with same duration after Higher Secondary School. During the late sixties and early seventies, a series of changes took place in the organization, management and curricula for teacher education. The provincial Bureaus of Curriculum were established and the teacher training institutions offering PTC, CT and OT courses were upgraded to Colleges of Elementary Teachers/Education. The management of teacher education institutions for primary and elementary teachers were placed under these Bureaus. Curricula of the newly introduced

programmes were developed to meet the needs of the time.

The effective implementation of the Education Policy (1972-80) demanded a fundamental and continuing reconsideration of teacher education programmes at both the pre-service and in-service levels. For this reason the PTC and CT curricula were revised by the National Committee on Elementary Teacher Education Curriculum in 1974-75. To implement the new curricula effectively, teacher guides were developed in various school subjects and provided to all the educational institutions in the country during 1975-80[4]. In the late1990s, Diploma in Education (Dip. Ed) was introduced to replace PTC and CT. It had two modes – a three year programme after 10 year of schooling or a one and a half year programme after 12 years of schooling. In 2002, after the establishment of the University of Education Lahore, BEd elementary education degree programme was introduced in the elementary colleges to replace all the certificate and diploma courses of teacher education in Punjab. Nonetheless, in other provinces, these certificate and diploma courses are offered till today.

The significance of such educational innovation cannot be overemphasized for improvement of teacher education in the country. However, there are areas that need serious consideration for the effectiveness and sustainability of the new reform initiatives especially with respect to inputs. The USAID (2004) sponsored study reported: a) most of the teacher education institutions had adequate buildings and accommodation but require maintenance; b) science labs, libraries and IT rooms, although in place, are not adequately equipped in many institutions; and c) the classroom environment is not suitable to deliver the approaches mentioned in the curricula particularly for activity-based teaching.

The pre-service teacher education programmes offered earlier did not have quality course content to comply with the National Professional Standards nor these prepared teachers who could implement 2006 National Scheme of Studies for elementary level (K-

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[3]These standards reflect a growing knowledge base and an increasing consensus about what teachers should know and be able to do to help all students learn in accordance to the challenging new standards set in school curricula.

[4]The PTC and CT courses preparing teachers for primary and elementary school teaching were last revised and introduced in 1995.

8 grades). Thus, these programmes had several demerits including: short duration, theoretical courses, ineffective practice teaching, ineffective formative and summative assessment, low entry academic requirements, etc. In many institutions, teacher educators without adequate academic and professional qualifications delivered these programmes in the absence of the essential facilities needed in this regard. This has badly affected quality of teacher education for preparing teachers for elementary schools. Nonetheless, one should be sensitive to existing dynamics and regular adjustment of requirements of the system to overcome the conflict between long-term ambition and short-term concerns. The long-term ambition includes increased duration of the programmes, assert teaching as a profession, enhanced pay-packages and other incentives to attract quality young men and women in the teaching profession. Whereas the short-term concerns include phasing out of short duration teacher education programmes by legislation and to devise alternates for the organizations that are dependent on the income from such programmes.

Recently, teacher education in Pakistan again, is passing through transition as Higher Education Commission (HEC) has initiated BEd (Hons) programme which is of longer duration in comparison to any other programmes offered so far by any teacher education institutions in the country. Studies around the globe Rice, 2003; Wayne & Youngs, 2003; Zeichner & Conklin, 2005; Goe, 2007; Darling-Hammond, et al., 2009; Moir, et al., 2010) suggest increase duration for teacher education programmes has direct proportion with the quality of teachers. This reform aims at to improve the quality of teacher education by including different innovations; such as increased duration of the teacher education programmes, development of curricula and allied material for new programmes, training of the teacher education institutions' faculty, up-gradation of infrastructure to accommodate the students for their long stay in the institution, and change in recruitment rules to absorb the graduates of such degree programme in public sector schools, Efforts have been made to design the curricula keeping in view the modern educational principles along with the contextual relevancy. The programme has replaced the pre-service programmes such as PTC, CT, Dip. Ed, the one-year BEd programme,

and the three year BSEd programme offered previously. In addition, an effort is being made for the accreditation and standardization of teacher education institutions through National Accreditation Council on Teacher Education (NACTE) under the umbrella of HEC.

Following table gives the detail of the teacher education programmes that have been introduced for elementary education during different periods in the history of Pakistan.

Table 1

Status of the teacher education institutions in different eras and programmes/courses offered

Era	Name the teacher education institution offered the programme/Course	Programme introduces	Duration of the programme
Pre-independence	Normal Schools	JV	48 weeks after eight to ten year schooling
Independence to early sixties	Normal Schools	JV, SV, OT, AT,	48 weeks after eight to ten year schooling
Mid-sixties to mid nineties	College for elementary teachers	PTC, CT, OTC, and ATC (up-gradation continue)	48 weeks after eight to 12 year schooling
Mid-nineties to 2002	College for elementary teachers; or Regional Institute of Teacher Education	PTC, OTC and ATC	48 weeks after 10 year schooling
		CT	48 weeks after 12 year schooling
		DipEd	Three year after 10 year schooling Or one and half year after 12 year schooling
2002 to 2009	College for elementary teachers; Regional Institute of Teacher Education; and (till 2005 in Punjab Only) university college of education	PTC (except Punjab)	Nine month after 10 year schooling
		CT(except Punjab)	Nine month after 12 year schooling
		DipEd (except Punjab)	Three year after 10 year schooling Or one and half year after 12 year schooling
	College for elementary teachers; or University of Education Campuses (from 2005 to 2009) in Punjab only	BEd only in Punjab	One year after 14 year schooling
2009 onward	College for elementary teachers; Regional Institute of Teacher Education; Department of Education in the university; or University of Education Campuses	PTC (except Punjab) privately	Nine month after 10 year schooling
		CT (except Punjab) privately	Nine month after 12 year schooling
		ADE	Two year after 12 year schooling
			Three year after 12 year schooling (in Punjab only)
		BEd	One year after 14 year schooling
		BEd (Hons)	Four year after 12 year

Furthermore, government sector employment eligibility still conforms to professional qualifications including PTC and CT, whereas the non-government sector is flexible in its recruitment entry requirements. This leads to insignificance of the teacher education reforms in Pakistan (Farooq, 1990; Mahmood, Ghafoor, & Saeed, 2003).

Research Questions

The study report in the paper, addresses the question: *Are the resources (investments) provided to public sector teacher education institutions correspond to the requirements of the currently offered programmes including the newly proposed standard based degree programmes?* In this regard, the study has pondered upon the following specific questions?

a. What does an input for teacher education encompass to meet the requirements of currently offered programmes and newly introduced teacher education programmes?

b. What is the status of investments at present, in the teacher education institutions (Faculty of Education) in comparison to Higher Education Commission's requirements?

c. What is the social status of Faculty of Education in the eyes of the university management with regard to other faculties of the university?

Methodology

T   he unit of data collection for the study was public university that had department/faculty of education. Major part of the data presented in this paper are taken from a series of more than 50 workshops conducted for the 21 universities under a donor funded project to develop a 10-year strategic plan for the faculty of education of these universities. For each university there were a set of 5 workshops on an average. The set of workshops were repeated for every university. These workshops have three prong objectives: a) building capacity of the faculty/staff of the university in strategic planning, b) gathering data about the faculty of education and its institutional analysis, and c) developing the draft strategic plan with the consensus of the top management. The other source

of data was published studies, technical reports on the teacher education generated by various donors and other organizations that have been reported in the paper.

Sample of the Study

The sample of the study was department/institute/faculty of education of 21 leading public sector universities in Pakistan with representation from all the four provinces, Gilgit-Baltistan and Azad Jammu and Kashmir. Sixty eight senior faculty[5] members working in these departments/ institutes/faculties were part of the study. The survey questionnaire was filled in by 21 heads of the departments/institutions with support from management and staff. Apart from the concerned heads, chairpersons, directors and deans, senior management including registrars, treasurers, directors of finance, and directors of planning were also included in the study and the total number of participants from this strata was forty three. Two officials working in Quality Assurance Wing of the HEC were also included in the sample of the study. In this way a total of 134 individuals participated in the study.

Instrumentation and Data Collection

The main question of the study requires multiple perspectives for getting appropriate answer in order to enhance and enrich the meaning of a singular perspective. For this not only quantitative data was needed but also contextualization of the data became essential to understand a macro picture of the phenomenon. Plano-Clark (2010) argues that by merging quantitative and qualitative data one can develop a more complete understanding of a problem, create a complementary picture, triangulate results, provide illustrations of context for trends and/or examine processes/experiences along with outcomes. Data were collected through: a) document analysis; b) survey questionnaire; c) consultative meetings; d) semi-structured interview of HEC officials; e) Focus Group Discussions with university faculty and management; and f)

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[5] The basic reason for selecting senior faculty was, the participants as per requirement of the task 'develop strategic plan' only top management and senior faculty could be invited.

Reflective journal. A large part of the data reported in the study was also collected from secondary sources including reform reports.

Criteria for Analysis

The criteria for analysis adapted from the CIPP Model (Stufflebeam, 1971; Stufflebeam, 2007), comprises of four quality components that build the process towards a holistic programme review – Context, Inputs, Process and Product. The CIPP Model for evaluation is a comprehensive framework for guiding formative and summative evaluations of programmes, projects, personnel, products, institutions, and systems. The model has been widely applied and further developed. Those applying or contracting others to apply the model have included government officials, foundation officers, programme and project staffs, international assistance personnel, school administrators, physicians, military leaders, and evaluators. The model is configured for use in internal evaluations conducted by an organization's evaluators, in self-evaluations conducted by project teams or individual service providers, and in contracted external evaluations. In comparison to other models, the CIPP model seems to be more useful in terms of thinking about the overall context and situation.

In order to ascertain the quality product like 'the quality teacher', quality inputs, context and process are required and are the prime investments in any systems. In the study quality of investments were gauged on the three indicators: a) teacher education curricula, b) access to related informational resources required to deliver the curricula, c) quality and quantity of human resources in teacher education, and d) infrastructural facilities. The criteria used to review these indicators were the requirements for these either by HEC and/or by NACTE.

Data Analysis and Interpretation

Among the 21 universities included in the study, 16 were general, three were professional and two were gender-specific (women). In these 21 universities, 13 had Departments of Education, one had Institute of Education, four had Institute of Education and Research and three had Faculty/ Division of Education. All these universities started offering four-year BEd (Hons) programme, apart from their other regular programmes. These universities were in the process of replacing one-year BEd programme.

Teacher Education Curricula

Quality curriculum is a major input for the success of any programme including teacher education programmes. The quality of a curriculum is embedded in its continuous updating to meet the requirements of the age. The curriculum development and revision is a cyclic process designed to assure that curriculum is coherent and appropriate to the changing demands of the society. This is very much true to teacher education curricula specifically for Pre-Service Teacher Education programmes. The process of curriculum revision either for school curricula or for the Teacher Education curricula needs to be of empirical in nature, based on research into teaching and learning with the aim to sustain the relevance of teacher curriculum for prospective teachers to develop a knowledge-based society within a global context. Curriculum revisions in teacher education programmes had been started from mid-fifties, either through change in the list of contents and/or redefining the title of the programmes. The process of this revision remained slow till the year 2000 but afterwards rapid changes were made in these programmes. Literature and the opinion of the teacher educators expose that most of the revisions and updates in the teacher education curricula were not in accordance with the national demands of the school education in the country. The short duration of programme and lengthy syllabuses, with redundant content, was a common complaint of teacher educators at all levels for the curriculum of teacher education programmes (USAID 2004) for PTC, CT, Dip Ed and BEd one-year programmes.

In order to make teaching a profession of choice through implementing B.Ed. (12+4) programme developed in 2006, the curriculum was reviewed in 2010 to improve the teacher development programme further. There was enhanced emphasis on developing various skills that are essential for teaching. Hence, a blend of content and pedagogical courses has been provided in the scheme of studies of BEd (Hons) programme– the two years of graduate courses and two years professional courses to prepare prospective teachers as professionals in education. For the revised BEd (Hons) curriculum (2010), HEC claims that the programme is based on

the 'National Professional Standards for Teachers in Pakistan' which is a healthy sign because the national standards were developed to deliver the National Curriculum (2006-2010) for school education which is also a standard based curriculum. Nonetheless, the analysis of the BEd (Hons) curriculum discloses that still there is a need to revisit the content and delivery mechanism of the curriculum to achieve the aims of the National Curriculum (2006-2010) specifically to develop: a) creative, constructive, communicative and reflective individuals capable of effectively participating in the highly competitive global, knowledge-based economy and the information age; and b) citizens committed to creating a just civil society that respects diversity of views, beliefs and faiths (National Scheme of Studies, 2007).

Access to Related Informational Resources Required to Deliver the Teacher Education Curricula:

Education without library services is like a body without soul, a vehicle without an engine, and building with bricks but no cement. The library is the chief instrument for accumulating and using intellectual heritage. Formal education can be conducted effectively and efficiently only with well-equipped libraries. Today, libraries are connected to vast ocean of Internet-based services. Electronic resources are developing rapidly. Academic libraries are the nerve centers of their institutions, and must support teaching, research, and other academic programmes particularly teacher preparation programmes. The situation in academic libraries in Pakistan, particularly in faculties of education of public sector universities is not at all enviable as that of academic libraries the world over.

Table 2. Institutional level and availability of library resources

	Access to Social Sciences data bases other than HEC provided data bases		Existence of Formal departmental Libraries		Access to international journals		No. of Int. Journals available
	Count	%	Count	%	Count	%	
DoE(N=13)	2	15.4	10	76.9	4	30.8	8
IoE(N=1)	0	0	0	0	0	0	0

IER(N=4)	1	25.0	3	75.0	2	50.0	4
FoE(N=2)	0	0	2	100	0	0	0
Total (N=20)	3		15		6		

DoE-Department of Education; IoE- Institute of Education; IER- Institute of Education and Research; FoE- Faculty of Education

Table 2 presents a bleak situation of the faculties of education with respect to availability of the knowledge resources for delivering teacher education programmes especially a new programme like BEd (Hons). There are departments/ institutes in the public sector universities that are working without any formal library resources. The BEd (Hons) curriculum requires latest knowledge and materials in the field. The prospective teachers are provided course outline with the expectation that they will explore the teaching- learning materials for classroom instructions. However, it was observed that majority of the prospective teachers were struggling with identifying teaching resources due to: a) the non-availability of the reference materials including books, journals, and sample lesson plans, etc. and b) lack of e-resources in the colleges/institutions. This situation may affect quality of the teaching-learning process of the programme and hence the desired learning outcomes as well.

Quality and Quantity of Human Resources in Teacher Education

Human resources are the basic unit of an institute of education. A leading institute requires highly qualified and experienced faculty members to equip graduates with advanced knowledge in pedagogy, research, educational leadership and management; these are also necessary to produce quality educators to cope with future challenges. A highly qualified and skilled higher education workforce underpins a nationally and globally competitive higher education system. Academic staff is the most valuable asset of an educational institution. Investing in the recruitment, retention, and professional development of faculty and staff should be the university's top priority. HEC criteria for a department in a university ask for appointment of at least six full-time teachers with following break-up; a) One Professor, b) One Associate Professor, c) Two Assistant Professors, and d) Two Lecturers. It also recommends teacher student ratio as 1:30 (Higher Education Commission, 2007). Following table gives break-up of the present faculty in the 21 universities of Pakistan.

Table 3: Faculty size in the Faculty of Education

	No. of Professors	No. of Associate Professors.	No. of Assistant Professors.	No. of lecturer	No. of teacher assistant	Total
DoE(N=13)	7	9	53	63	0	132
IoE(N=1)	0	0	0	0	0	0
IER(N=4)	6	7	30	33	0	76
FoE(N=2)	1	2	12	12	1	28
Total (N=20)	14	18	95	108	1	236

Table 3 expresses that there is shortage of faculty especially senior faculty. A considerable number of professor and associate professor level positions are lying vacant. This situation created leadership gap in the faculty that could make sure transformation innovations into sustainable actions.

The BEd (Hons) curriculum also demands teaching strategies including collaborative, inquiry and activity-based teaching approach that needs increased number of faculty who know how to transform content for these strategies. However, the profiles of the faculty collected during study through abridged Curriculum Vitae, reveals that a majority of the faculty in the universities are not oriented with the teaching strategies demanded by the BEd programme.

Table 4. Student body (Morning programmes)

Number of students	Under-graduates programmes B.Ed (1)			Under-graduate programmes BEd(4)			MEd			Masters' in Arts and/or Science Education programmes			M.Phil. programme			PhD programme			Total		
	M	E	T	M	E	T	M	E	T	M	E	T	M	E	T	M	E	T	M	E	T
DoE(N=13)	201	37	**238**	483	0	**483**	247	63	**310**	590	25	**615**	70	118	**188**	9	69	**78**	1600	312	**1912**
IoE(N=1)	115	0	**115**	0	0	**0**	250	0	**250**	0	0	**0**	0	0	**0**	0	0	**0**	365	0	**365**

IER(N=4)	391	118	**509**	324	170	**494**	127	62	**189**	703	587	**1290**	76	0	**76**	25	0	**25**	1646	937	**2583**
FoE(N=2)	288	367	**655**	62	0	**62**	46	118	**164**	69	3	**72**	57	0	**57**	33	0	**33**	555	488	**1043**
Total (N=20)	995	522	**1517**	869	170	**1039**	670	243	**913**	1362	615	**1977**	203	118	**321**	67	69	**136**	4166	1737	**5903**

M- Morning; E-Evening; T-total

The table 4 indicates that there are a considerable number of students studying in the teacher education institutions. About half of the total enrollment of the students is studying either in BEd one year or four year programmes. This ratio is high as compared to the enrollment in IERs. Below is applicants' trend for admission in teacher education programmes.
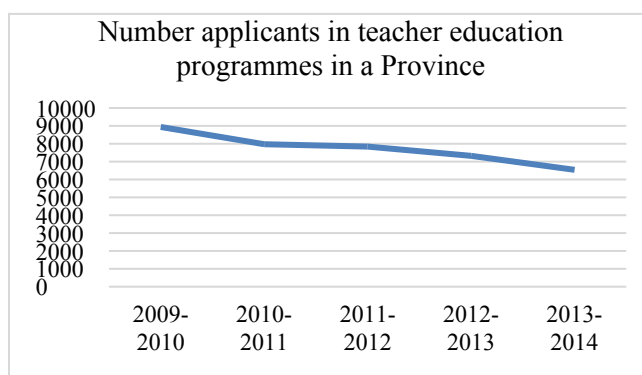
The trend of the applicants for admission in teacher education programmes in Pakistan is not encouraging. It is obvious that if there is decline in the number of applicants for any programme means decline in the quality of intake for the admission in such programmes.

Table 5. Teacher student ratio

	Number of students in morning programmes	Number of students in evening programmes	Total Number of students	Total number of regular faculty	Teacher : students
DoE(N=13)	1600	312	1912	132	1:15
IoE(N=1)	365	0	365	0	

IER(N=4)	1646	937	2588	76	1:34
FoE(N=2)	555	488	1043	28	1:37
Total (N=20)	4166	1737	5908	236	1:25

It was also observed that some school teachers are being deputed in teacher education colleges due to compensate for the lack of adequate number of teachers in such colleges. Due to the different approaches of pedagogy and andragogy; these teachers treat the prospective teachers like children, which de-motivate them. This leads to the conclusion that if the school teachers are to be deputed in colleges they should be oriented with the andragogy of teaching an adult. Furthermore they lack motivation, and learning in such a context, certainly extend down into earlier grades as well (Knowles, et al., 2005).

5.4 Infrastructural facilities

Infrastructure plays a vital role in providing quality education. Although, today technology can address prospective teachers' needs in many aspects of education, a comprehensive infrastructure for learning is still necessary to move beyond the traditional classroom model towards one that brings together teaching teams. Physical infrastructure like classrooms, labs, instructional resources, libraries, transport facilities, instructional technology, etc.—is indispensable to the smooth execution of current and newly planned programmes. The NACTE has listed these facilities of teacher education institutions as one of its criteria for programme accreditation. Apart from asking, entire infrastructure should support new trends in learning such as e-learning. HEC has also given following essentials to open a new department: a) Two classrooms (must be adequately equipped); b) One multipurpose hall; c) One library cum reading room (must possess an up-to-date technical collection relevant to the programme and must be adequately staffed with professional personnel); d) One faculty lounge; and e) Faculty offices (must be adequate to enable faculty to carry out their responsibilities). Following tables gives the current status of the infrastructure in the faculties of education.

Table 6. Availability of building block and number of classrooms in the department of education

	Dedicated block for the department	Total No of dedicated classrooms (borrowed or owned)	Total number of students (morning)	Classroom to student ratio
DoE(N=13)	5	41	1600	1:39
IoE(N=1)	0	4	365	1:91
IER(N=4)	3	33	1646	1:50
FoE(N=2)	2	14	555	1:40
Total	10	92	4166	1:45

Table 6 expressed the dearth of classrooms in almost every institution. Since some of the institutions even had not their own building blocks, they certainly run shortage of the classrooms for their students.

Table 7. Availability of Science labs facilities at departmental level

	General science		Physics		Chemistry		Biology	
	Count	%	Count	%	Count	%	Count	%
DoE(N=13)	3	23.1	1	7.7	1	7.7	1	7.7
IoE(N=1)	0	0	0	0	0	0	0	0
IER(N=4)	1	25.0	0	0	0	0	0	0
FoE(N=2)	1	50.0	1	50.0	1	50.0	1	50.0
Total (N=20)	5	25.0	2	10.0	2	10.0	2	10.0

Science laboratory give the first-hand experience in observation and manipulation of the materials of science to the prospective teachers. Following table gives the status of science labs in the teacher education institutions. The teacher education institutions in the country are lacking in these facilities to a large extent.

Table 8. Availability of IT facilities at departmental level

	Dedicated computer lab		Internet access in the lab		Internet facility in the faculty rooms		Skills of computer lab assistant		
	Count	%	Count	%	Count	%	Good	Poor	Not Available
DoE(N=13)	8	61.5	10	76.9	11	84.6	3	7	3
IoE(N=1)	0	100	1	100	0	0		1	
IER(N=4)	2	50.0	4	100	4	100	2	1	1
FoE(N=2)	2	100	2	100	1	50.0	1	1	
Total (N=20)	12		17		16		6	10	4

A considerable number of the departments did not have proper IT facility. Internet is considered as one of the important sources for identifying teaching-learning material. However, it was observed that some of the faculty members are not literate in computers and internet. So they are facing challenges in accessing the teaching-learning resources that are available on the Internet or in soft version. Therefore, the faculty members of colleges need to be helped in acquiring workable computer and internet skills alongside increasing their professional competence in using these skills in teaching learning process in schools.

Discussion

The data of the study confirms that although many concrete initiatives have been taken so far to align teacher education and school education curriculum to achieve the goals set in the enacted National Education Policy, these could not be translated into practices of the teacher education institutions. This is also a major hindrance to form active linkages between higher and basic education, between schools and universities to meet the requirement of some organic links within education.

One of the major investments in any institution is recognition of importance of its mandate; which leads to directions of more resources to the institution. Teacher education is still in a state of chaos, disorder , and uncertainty. This may be a part of the reason that in an overall ranking of a departments/faculties in majority of the universities, in terms of status, teacher education departments/faculties are not enjoying high status. "Reforms don't work if they are top-down—if teachers are treated as just 'part of the problem'. Teachers need to be central to solutions" (OCED, 2012, p.4). The same goes for teacher education departments. Low status of teacher education institutes in the Pakistani universities is common. Universities need to re-organize their priorities to reflect the pressing need for effective teaching by better teachers at all levels of our education system.

The other investments to the teacher education institutions identified in the study have been grouped into three major categories.

Human resource

Quantity and quality of faculty of the teacher education institutions:

In almost one third of the universities, the departments of teacher education are working without any professor and half of the universities had one or more associate professors and around 40% of the approved positions were lying vacant. There was no PhD in Education in any university of the Balochistan province. Among the available faculty more than 95% did not have proper exposure to school education (especially teaching) particularly at elementary level. This situation is contrary to requirements of HEC in Pakistan. Hence it creates also disparity between the conceptions of good

practice that prospective teachers are taught and those they encounter when they begin actual teaching in the school classrooms.

Quality of students' intake at the teacher education institution:

The quality of teaching largely depends on the qualities of those who enter and stay in the profession. 'No system of education is better than its teacher' (Commission on National Education 1959); that is 'why quality of an education system cannot exceed the quality of its teachers' (McKinsey & Company, 2007). Apart from giving the incentives to the students, the quality of the students' intake was not of the class as other departments had. Analysis of the admission forms reveals that in majority of the cases, admission in a teacher education intuition was not the first preference.

Infrastructure

The data presented in the study shows that there is a great dearth of buildings equipped with facilities, a pre-requisite for implantation of the revised curriculum. Only 50% of the institutions have dedicated building block for education faculty. Around 71% of teacher education institutions had departmental library[6], the total number of international journals subscribed by the department of the education of these 21 universities was 12 only. Apart from HEC provided facility concerning the access to online data bases and library books, there was hardly any university that had access to other data basis that has rich material on education.

Knowledge Resources

It is an accepted fact that rapid and massive developments of ICTs worldwide have changed the nature of learning radically and it is difficult for current educational paradigms to remain unchallenged (Alexander, 2008). The data collected in the study voice that majority of the teacher education institutions had IT resources. Nonetheless, only 25 % of the institutions have provision of practical component for teaching of science. Shulman and Tamir (1973) listed five types of objectives that could be achieved through the use of the laboratory in science classes:

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[6] While collecting the data, I considered it as departmental library even it comprised of one or two bookshelves only

a. "Skills- manipulative, inquiry, investigative, organizational, communicative

b. Concepts- for example, hypothesis, theoretical model, taxonomic category

c. Cognitive abilities- critical thinking, problem solving, application, analysis, synthesis

d. Understanding of the nature of science- scientific enterprise, scientists and how they work, existence of a multiplicity of scientific methods, interrelationships between science and technology and among the various disciplines of science

e. Attitudes- for example, curiosity, interest, risk taking, objectivity, precision, confidence, perseverance, satisfaction, responsibility, consensus, collaboration, and liking science" (p.1119).

Several current efforts in Pakistan hold great promise to transform initial teacher preparation; and involving teachers in research, collaborative inquiry, and standard-setting in the profession. There is a grave threat that most of the teachers educated without these facilities, will continue to be hired for over two to three decades from now. This will be very unfortunate and devastating not only for the education teacher but also for the education as a whole in Pakistan. Hence it is a critical point in time to transform the quality of teacher preparation by investing sufficient resources needed in this regard.

Conclusions

The massive changes occurring at an exceptional pace in political, economic, social and technological fields have influenced reforms in education, in general and teacher education, in particular. The countries of the world are seeking to improve quality of thier school education and to respond better to higher social and educational expectations envisaging a silent revolution in teacher education. It is beyond the discussion that the most significant resource in schools is the teacher who is central to school improvement efforts. Improving the efficiency and equity of schooling depends, to a large extent, on ensuring that competent individuals who have an innate yearning to become a teacher are available in great quantity to match with the growing requirements of school education. It is also utmost

essential that the teacher education institutions are properly and fully equipped to rejuvenate the inherent capacities of such individuals and produce teachers of quality needed to guarantee a sustained revolution.

For sustaining this revolution, more focus of teacher education reforms should, therefore, be on resources (investments – investments in developing curricula meeting needs of not only present but also of future, good infrastructure, sophisticated libraries, well equipped laboratories, quality human resources i.e. faculty and students intake, modern IT facilities, etc.) for teacher education institutions besides the refurbished teacher education programmes matching changing needs of the school, its curriculum and the society. The importance of quality teacher education cannot be disregarded to improving the quality of teaching-learning in the school. The new educational innovations in teacher education and training are, therefore, to be looked reflectively to make them practical, productive and sustainable by making them relevant to the school curriculum aspirations, rapidly happening socio-economic changes and the growing challenges of globalization. This also requires an assurance for a support mechanism by making respectable service structure for teachers linked to attractive salary packages and dignity, honour and respect for the teaching profession.

To sustain the promising new initiatives, we must confront deeply entrenched barriers including social behaviour towards teacher education, rigid bureaucratic structures in managements, un-welcoming behaviours of orthodox in faculty of educations to change, and financial constraints in developing countries like Pakistan. The argument of this paper is that, despite some major changes, there are a number of strong factors which are having significant effects upon the implementation of education policies and hamper the quality of teacher education. In Pakistan, the incredibly low level of resource base and fragmented organizational structure for teacher education institutions are a major barrier in the way of revolution. Rigorous understanding of the entire implications attached to the reform and to address them effectively and efficiently is mandatory to sustain the objectives for which the reform is being undertaken.

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