

NOVEL TRENDS OF RESEARCH IN CURRICULUM OF TEACHER EDUCATION IN GLOBAL PERSPECTIVE

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Abstract

The study focused on curriculum of teacher education in Pakistan and modern trends in this sphere in international perspective to assess policy making by different concerned agencies; and classify crucial evidence gaps to suggest future research and development programs on teacher education curriculum. Apart from other practices related to pedagogy used by teacher in formal and informal classroom, effectiveness of pedagogical practices, the curriculum and practicum; the school curriculum and guidance materials best support effective pedagogy were comprehensively covered. The major findings of the study include: teacher peer support, alignment of teacher need with professional development, improved pedagogy and assessment modes in practice; teacher monitoring; head teacher's support and alignment of evaluation forms with the curriculum. Research is needed on combining quantitative and qualitative methods with measurement of baseline and post-tests student achievement due to systematic reform intervention and classroom observation at larger scale. Moreover, schools in rural and remote

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areas having larger classes having teacher uncertainties for his presence and student need to be researched. The study also focus another gap related to teacher's practices at secondary school levels, examining stabilities and continuities with curriculum and pedagogies at primary level. Problems faced by the overage student in class need to be carefully examined and need to know how teacher positively handle class comprised of students older than the prescribed age limit in the same class and grade. Both formative and summative forms of assessment may be ensured that teacher use in relation to the curriculum. Generally, four models of curriculum are in function that includes: content-driven curricula, process-driven curricula, objectives-driven curricula and outcomes of competence based curricula. After going through the details of these models, the best options for Sindh province can be derived to innovate the existing curriculum of teacher education.

Keywords: *Novel trends, Teacher education, Research, Teacher Curriculum, problems, Issues*

Introduction

Education is a job of great responsibility and sensibility and the educator required to be well developed, multi-dimensional character with great ideals and skills, could deal with the students literally for imparting subject knowledge considering psychological aspects of the students and social norms as well. Giving education is simply the role of guidance and controlling the development and formation of characters and habits. During this process of learning at the institution, the student develops his individual capacities, powers and motivations. On these foundations the students move into the society and properly guided students by the teacher become not only the successful future characters but also efficient society elements (Maribeth, 1990). The overall social scenario, school environment and physical activities influence the observation, talents and competence of the students. Guiding students by emphasizing the curriculum is the basic element of his development. Broadly speaking curriculum is the blue print or a plan of the school that includes list of experiences for the learners. It is a way to achieve the ends of education.

Moreover, the curriculum lays the basis for increasing the ability of as many of an individual as possible to become active participating adult (Thomas and Morrison 1995; Misra, 2015).

Teacher is the most significant component of any educational program with central role to implement the learning process of the students. The achievement level of student is determined by the competence of teacher and it is wisely said that education quality is the essence of teacher's quality. The human population is increasing fast and there is need of increasing the number of quality teachers accordingly; but the situation is not so promising. Concrete measures are needed to improve quality of teachers by improving pre-service and in-service teacher education system. Teacher represents the only class of people that cannot keep away of the learning process until they are in the teaching process because of continuous innovations and hence, pre-service and in-service teacher education are complimentary to each other. Education is instrumental in development of effective teachers, who can ensure transformative learning where teacher and the student are co-constructors of the knowledge (Singh, 2014; ATEA (2016).

In Pakistan perspective, some specific measures need to be taken to ensure to develop standards and implement effectively. For professional teacher development set up of professional development centers is need of the hour coupled with four year undergraduate degrees for production of effective motivated teachers. The major problems hurdle the production of efficient teachers is probably at provincial level, particularly in Sindh and Balochistan where pilot programs for training females teachers giving encouraging results; similar pilot projects should be executed in all provinces. Moreover, developed of additional standards may be ensured for head teachers, trained teachers and teacher educators. Efforts are needed on development of new Masters level program for head teachers because these are influential in the communities and could result real change. The reviewed reports revealed the following points for improvements:

1. Selection/recruitment problem
2. Teacher training duration is short
3. Lack of competence in teachers
4. Narrow rigid curriculum of teacher training programs
5. Superficial or shallow practice teaching
6. Problematic/poor teaching supervision
7. Content deficiency of teaching subject knowledge
8. No innovation in the teaching methods

9. Isolation/segregation of teacher training department
10. Weaker academic Background of teachers and learners
11. Lack of education related facilities for teacher and students
12. Lacking regulation in demand and supply
13. No facilities for professional development of teachers
14. Financial allocations are meager
15. Narrow scope of teacher education
16. Culture-specific pedagogy lacks

Conceptual Framework

Curriculum reform is a process comprised of multiple elements and this cannot be singly targeted in the state of isolation from many associated components within system or in the content of socioeconomic and political aspects where such reforms are functional. The curriculum reforms needs to be linked with to teacher education and pedagogy (Pryor *et al.*, 2012), as reforms in relation to curriculum innovation are generally planned and executed without corresponding transformation in initial teacher training and ongoing professional development (World Bank 2008). The pedagogy covers thinking of teacher and what he is doing; the one impacts another, and with 3rd dimension of apparent, observable and likely measureable impact of pedagogy of teacher on learner himself that makes the pedagogic practice efficient. These aspects related to teacher thinking, doing and subsequent impact on learning efficiency of the student makes the pedagogy efficient. The curriculum association with assessment and teacher training related to thinking of teacher and doing within a particular background are the components of this conceptual framework.

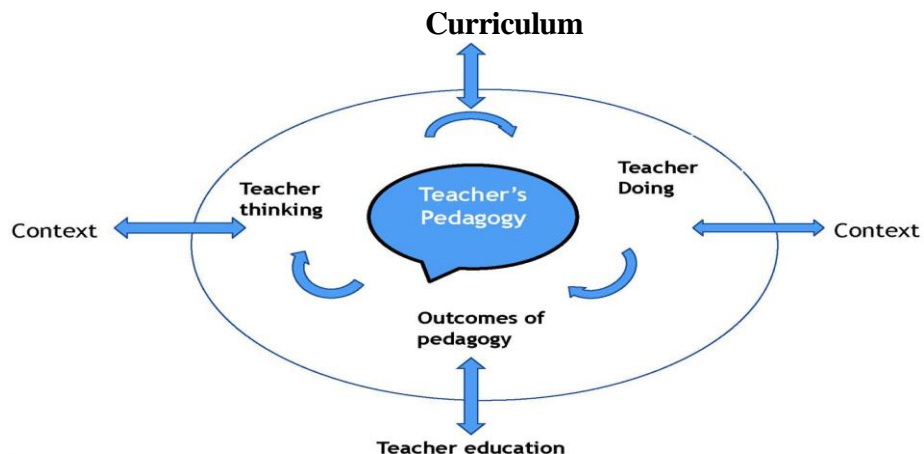


Fig. 1: Conceptual Framework

Curriculum (global perspective)

The curriculum is referred to as the key point for the teachers to take into account during the process of teaching as well as during their teaching training. It would be reasonable that the curriculum may be encoded in official textbook and teacher guides, because it is considered as the sole resource used by the teachers.

The pedagogic approach of teacher, strategy and practice serve to endorse the curriculum. The curriculum is also links educational goals and content selected officially with the teaching act and assessment in the classroom (Alexander, 2009).

The curriculum officially selected is transacted and transformed referred to as teacher-student interpretation as they modify and add something to the official specification. So, there is interrelationship among curricula, pedagogical aspects and assessment; as these influence one another mutually in classroom interaction (Alexander, 2009).

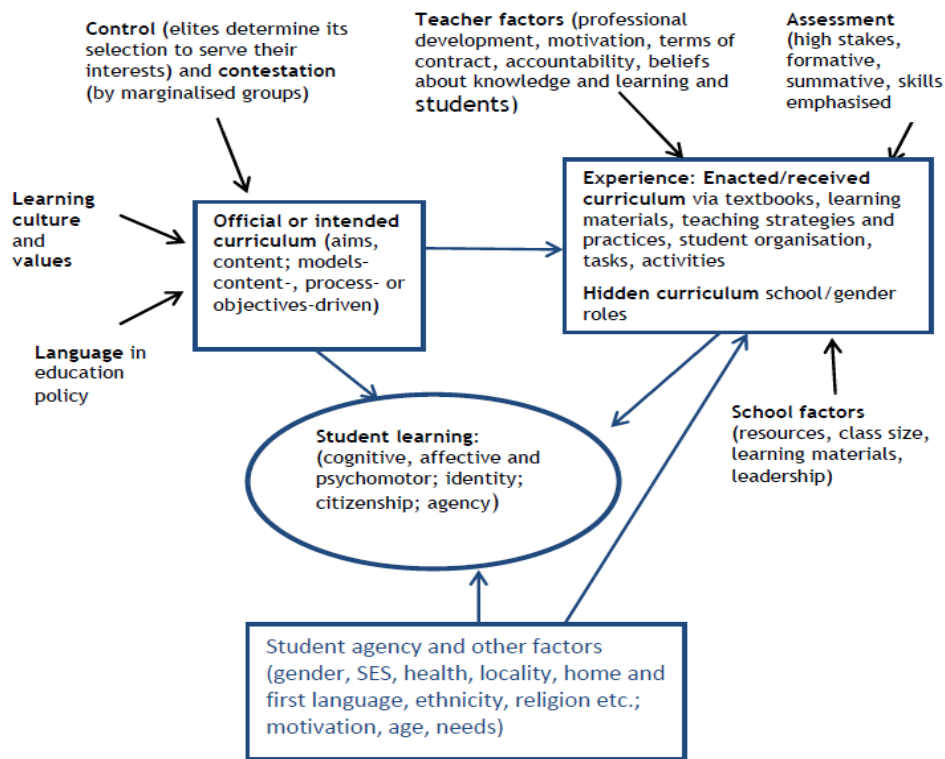


Fig. 2: Official and enacted curriculum: An understanding framework

Globally four curriculum models are found which include:

1. Content-driven curricula: is described as collective code of Bernstein that included mathematics and science to describe the curriculum enhancing specialization for the older students. In this model, the discipline is the key concept that describes to accept a specifically provided selection, organization, and timing; pacing of knowledge in pedagogical interrelationship of teachers and teaching for curriculum cover (Bernstein, 1975). The knowledge is communicated under the maximally controlled classroom environment.
2. Process-driven curricula: is exemplified by integrated code of Bernstein where content areas each other has an open relation. The student is more cautious about his learning compared to individual teacher, who is also in collaboration of his colleagues. The curricula termed as process-driven comprised of several models such as interdisciplinary, cross-curricular, integrated and thematic etc. In these models, multiple forms of assessment are employed emphasizing formative, personal, coursework-based and assessment regarded as open-ended in this system (Ross, 2000).
3. Objectives-driven curricula: are planned on the basis of probable learning outcomes, written by identifying the behaviour and Pedagogy, curriculum, Teaching practices and context in which probably behaviour operates, for example: analysing, applying, comprehending and beginning with lower-order objects and attempted to increased complexity level (Tyler, 1949). The utilitarian ideals driven content is generally opted on its relevance to work place.
4. The outcomes of competence based curricula: are formed on the basis of learning outcomes and according to this model all the learners are probably able for successful achievement when the learning experience ends (Botha, 2002). The curricula, instructions and assessments are organized to ensure that such learning happens ultimately. This may result life-long learners to suitably adapt to the work complex, more democratic inherently.

The pedagogy, curriculum and their significance in teacher education has been studied with respectively models comprehensively in the world (Ottevanger *et al.*, 2007). So far the models are concerned change in curricula in any case is to

replace content-driven curriculum which is also known as process driven or objective driven curricula. This shift has been planned to develop knowledge and could be employed that is learner relevant with changed terminologies in different countries (Cross *et al.*, 2002). The outcome and competence based curricula terms are especially used but not exclusively in some countries to teach attitudes and skills and knowledge as well; and these are integrated to be applied by students (Roegiers, 2008). Similar may be the intention in the case of interdisciplinary and thematic curricula (Altinyelken, 2010) by highlighting the integration of subject knowledge (Zhu, 2010).

Many studies suggested introduction of innovated curricula for multigrade classrooms particularly in remote, rural and disadvantaged areas of developing countries (Pridmore, 2007). Vithanapathirana (2006) reported student's improvement in relation to their learning outcomes applying the innovated curricula; however, this study kept silence on how the curriculum was enacted and about the classroom processes (Rogan and Grayson, 2003). By using innovated curriculum for multigrade classrooms, Little *et al.*, (2008) encompassed a holistic sight of curriculum at intended and enacted curriculum, and students were positively impacted with their integration; and useful effect on teaching learning process was determined (Wang and Zhao, 2011).

The curriculum reforms could do best in meeting their educational goals; it is generally noted that teachers show enthusiasm for innovating curricula (Ma *et al.*, 2009); but they do not have necessary perception to execute the innovated curriculum as intended (Todd and Mason, 2005); so incompetence of teacher is the key factor to cause ineffective execution of an effective and innovated program (Paine and Fang, 2006), due to poor academic foundation, particularly in developing countries (Altinyelken, 2010). The curriculum reform may include replacing old with the new forms, with overfull content and faster pace in favour of most students who later were left at the back, especially the female students (Pillai, 2003, Tanner and Antonowicz, 2013). New curriculum is generally executed mechanically without manifestation for relevance or function (Braund *et al.*, 2013); occasionally, it was noted to have harmful impact on learning of the students. Dello-Iacovo (2009) reported that abandonment direct teaching showed significant negative impact on student attainment, while learning content is seemingly unimportant under such circumstances and students missed key concepts as suggested by while Balarin and Benavides (2010). Hence, new curricula would play key role to develop effect teaching (Agyei and Voogt, 2011). Teachers generally in developing countries do not understand the true meaning

and concepts of new curricula, due to mismatch with teacher training (Pryor *et al.*, 2012).

Conceptual Framework

A systemic response needs to address teacher training and teacher practice in Pakistan. In order to address issues related to teacher training at comprehensive level, the framework should have three parallel dimensions which included: measures to address competence of teacher, his/her motivation and opportunity; secondly, across schools institutional provisions and policy at district, province and country levels; thirdly, support curriculum shift and practice, pre-service and in-service. Competence, teacher motivation and opportunity/reward need to be taken into consideration integrating with dimensions of policy, institution, curriculum and practice (Fig. 3).

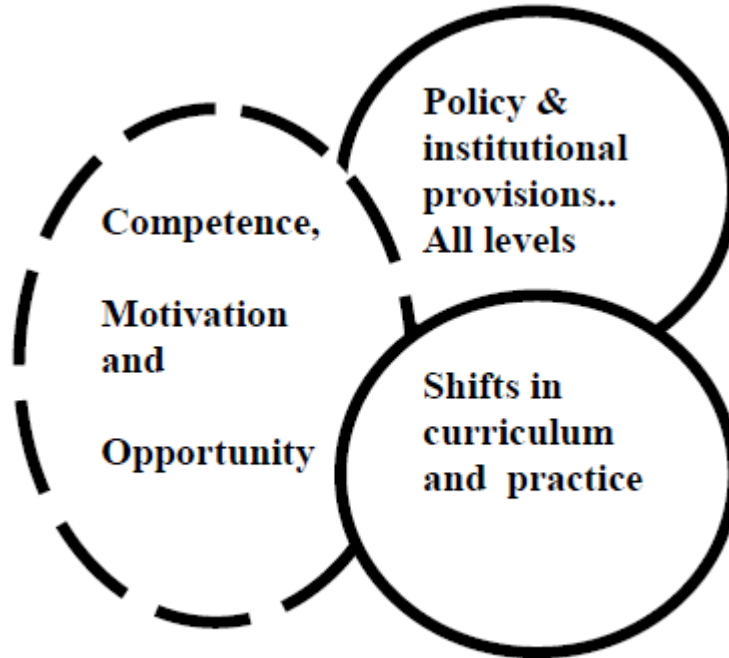


Fig. 3: Conceptual Framework (Pakistan)

In Pakistan, there are variations in pre-service curriculum for Teacher training between government and private training providers. The course work is set in generalized theoretical approach and there little is done for practical. The examining PTC/CT and Dip Ed body are the BISE; while conventional

universities for B.Ed, M.Ed. M.Phil and PhD program and pre-service institutions are affiliated with these universities.

Curriculum for PTC program:

1. Principles of education teaching methods
2. Development of child and appropriate counseling
3. School organization and classroom management
4. Language and teaching methods
5. Mathematics and teaching methods
6. Science and teaching methods
7. Social studies and teaching methods
8. Islamiyat, Islamic history and teaching methods
9. Arts / practical art and teaching methods
10. Physical education and health
11. Practice teaching

Curriculum for CT Program

1. Theory and education history
2. Development of child
3. School and development of communities
4. Methodology and teaching aids development
6. Elementary education organization and management of school
7. Special subjects and teaching methods
8. Practice teaching

Curriculum for secondary teacher education

1. Education perspectives
2. Psychology of education and guidance
3. Organization and management of the school
4. Assessment, evaluation and measurement
5. Islamiyat and Pakistan studies
6. Curricula and instructions
7. Practice teaching

Curriculum of in-service teacher education

In-service training curriculum offers a variety and space for further development and innovation. There may be a variety of options, from traditionally adopted theoretical trainings (cascade oriented) to well planned tailor made lessons for certain target audiences. For in-service teacher training the conventional programs have been innovated which also included Mentoring, MTT, WSIP, Clustering,

PDT and challenges of health, population, environment, HIV Aids, rights, IT, and gender. The in-service curriculum sometimes is more balanced, diverse and focused in relation to methodology and content. There has been an effort to augment the attention while course contents are designed to the areas:

1. Content knowledge based on subjects
2. Teaching and learning quality such as use of pedagogical methods in such as way to develop joyful learning among students
3. Student centered learning supported by low cost aids
4. Involvement of communities
5. System of learning assessment
6. Skills related to information technology literacy
7. Multi-grade teaching

Theory of change

Comprehensive work on curriculum shift from traditional to innovative methods has been done worldwide. A theory of change through a model show the steps of intervention, precise goals, causal mechanisms for development of change and each stage underlying assumptions (Fig. 4).

When this theory of change is related to Pakistan, the research question has unusual wide scope and application range at school level. Attempting a thorough and comprehensive theory of change in diagram for all practices and interventions are covered.

The general stages and assumptions have been shown and explained in the diagram (Fig. 4). This showed the evidence strength against each practice on the basis of studies carried out worldwide on similar aspects.

The central lozenge represented a three-way association between positive and effective teacher attitudes and three strategies of communication; and the impact explaining how teacher implements six teaching practices. These practices and attitudes reinforced mutually (horizontal double-headed arrow).

The teacher adjust to student's learning, recognizes visible learning impact in classroom and turn into part of such mutual reinforced cycle, represented by the double-headed arrow in between teacher practice and impact on student's learning outcomes.

The equitable learning of student is fundamental teaching purpose, greater engagement and lesson enjoyment ultimately in greater student achievement and satisfaction of the stakeholder.

In assumptions students are able with learning motivation from a variety of practices which mainly include the health aspects, the human nutrition and cognitive establishment and adequate learning materials are there for the use of concerned teachers.

The most suitable methods, curriculum and the teacher education function efficiently is indicated in top two lozenges (dotted double headed arrow) indicating that under best possible situations which showed alignment with each other. The major alignment urges and recognizes teacher education and his/her teaching to school curriculum.

Finally, peer support among teachers implants teacher learning model sustainably. Referring this model of teacher training to work, the assumptions are that there is support from the school head and community, and that expectations for progress of teacher are realistic, taking place over time rather than immediately.

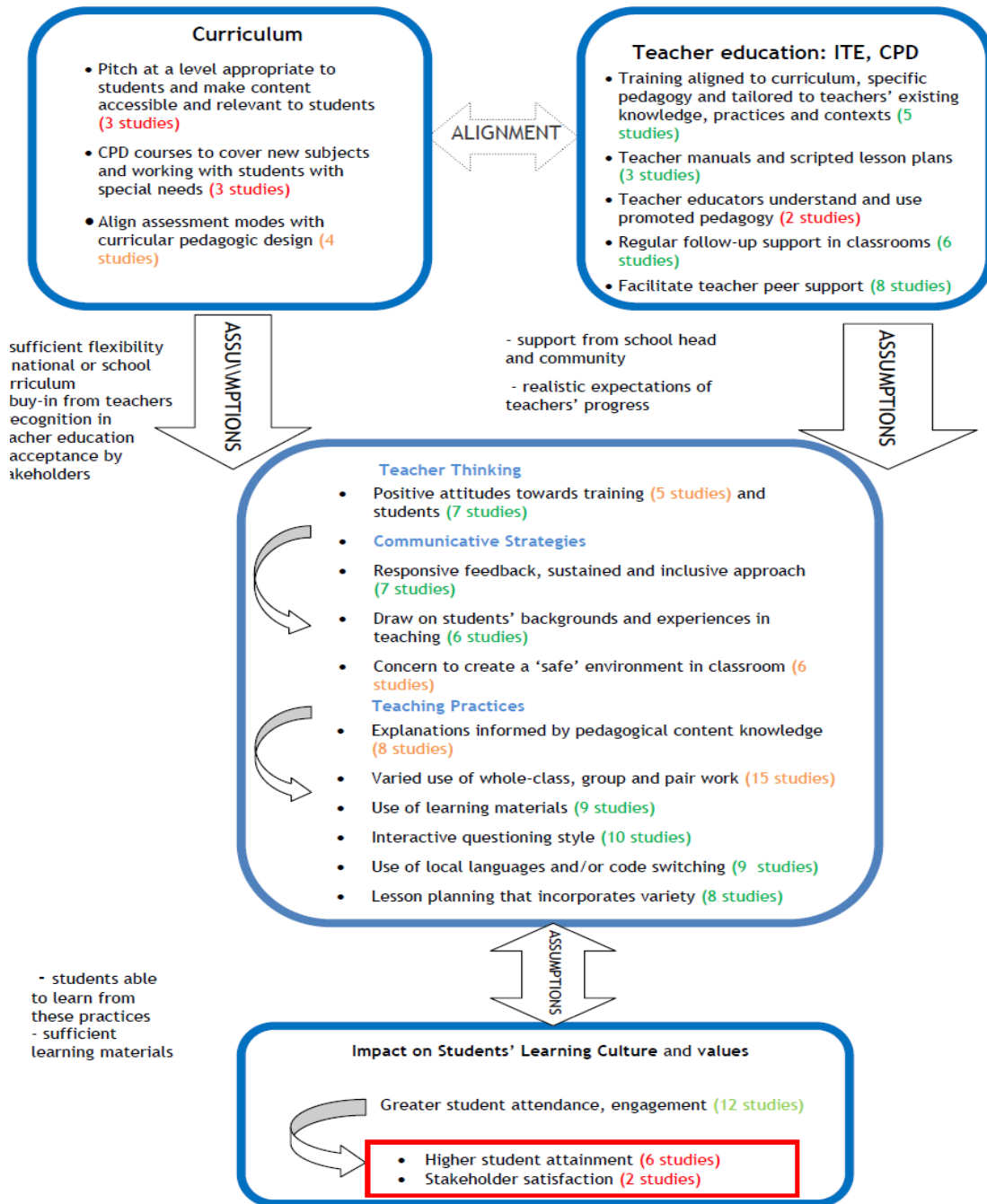


Fig. 4: Theory of change (from curriculum to impact on student's learning culture and values)

Table 1: Enabling and disabling factors for teacher curriculum

Curriculum contents	Promoting practices	Teacher sequences
Content and coverage	Pitched in appropriate manner with feasible content focus on literacy and numeracy	Irrelevant to marginalized children in rural remote area schools, pitched towards highest achiever, overloaded and inflexible
Assessment	Curriculum content and assessment mode alignment, generally continuity of the assessment	Teachers are compelled by high stakes summative exams for quick cover of curriculum employing teacher- directed methods; while student-centered methods are ignored.
New subjects	-	Regular assessment of life skills of teachers teaching multigrade class or dealing with neglected and disable pupils.
Text books	-	Non-availability of textbooks or availability in limited numbers having no multiple options; materials related to teaching and learning and of poor quality
Student number	-	Classrooms with more than available capacity, fixed desks, noisy environment, no or little time to mark work

SURVEY RESULTS

Problems related to curriculum and its execution

The respondents were invited to perceive on problems and issues associated with curriculum and its execution and 98.33 percent disclosed that superficial or shallow practice teaching is the major issue associated with the curriculum and its execution; 96.67 percent complained on short teacher training duration, 91.67 percent explained the lack of culture specific pedagogy, and content deficiency of teaching subject knowledge was reported by 81.67 percent respondents. Around

50 percent perceived rigid curriculum of teacher training programs and lack of competence in teachers. This indicates that shallow practice teaching, short teacher training duration, and lack of culture specific pedagogy are the key issues associated with curriculum and its execution. The authorities of teacher education must take the above points into consideration while formulating policies related to curriculum development and execution. It is need of the time that the curriculum of teacher trainings may be revised in accordance with the international standards for teacher development and strict adoption of curriculum by teacher of all school levels may be ensured. The teachers who are not interested or not motivated must be given chance to retire from the service or they may be forcibly retired from the position of teacher.

Table 2: Perceptions of teacher trainers related to curriculum and its execution (n=60)

Sr#	Problems	Freq	%
1.	Narrow rigid curriculum of teacher training programs	33	55.00
2.	Content deficiency of teaching subject knowledge	49	81.67
3.	Culture-specific pedagogy lacks	55	91.67
4.	Teacher training duration is short	58	96.67
5.	Superficial or shallow practice teaching	59	98.33
6.	Lack of competence in teachers	29	48.33

Administrative problems related to teacher education

The teacher educators were asked to perceive on issues and problems related to administration and a high majority (98.33%) perceived that selection/recruitment without merit is the mother issue that develops multiple problems; 86.67 percent complained about meager financial allocations for various practical and theoretical requirements as well as demonstrations; 85.00 percent indicated that there is poor teaching supervision at all levels of institutions; 83.33 percent perceived that lack of education related facilities for teacher and students is also a significant administrative issue; while 73.33 percent perceived that segregation of teacher training department caused ineffectiveness of the programs. However, according to 68.33 percent respondents, no facilities are provided for professional development of teachers by the administration and 55.00 percent respondents perceived that there is lacking regulation in demand and supply. The results clearly indicates that recruitment without considering merit is the key issue, followed by meager financial allocations for various practical and theoretical

requirements including demonstrations; poor teaching supervision at all levels; lack of education related facilities, isolation of teacher training department are the significant issues related with the inefficient progress of teacher trainers and teacher trainees. Strong administration is the real force to get everything on the right path; while poor administrative control means to collapse everything for nothing.

Table 3: Perceptions of teacher trainers on administrative problems related to teacher education (n=60)

Sr#	Problems	Freq	%
1.	Selection/recruitment problem	59	98.33
2.	Problematic/poor teaching supervision	51	85.00
3.	Isolation/segregation of teacher training department	44	73.33
4.	Lack of education related facilities for teacher and students	50	83.33
5.	Lacking regulation in demand and supply	33	55.00
6.	No facilities for professional development of teachers	41	68.33
7	Financial allocations are meager	52	86.67

Issues related to inefficient delivery of teacher trainees at classroom level

The respondents were also asked to perceive on general issues related to inefficient delivery of teacher trainees at classroom level and 100 percent perceived lack of motivation of trainee teachers for modern teaching methods, they need strict rule of law for effective delivery at classroom and strict evaluation by an independent body for their teaching skill development was suggested. Weaker academic background of teachers and learners was perceived by 98.33 percent respondents, 96.67 percent perceived teacher trainees lacking skills to deliver at classroom what they learn in the training on modern teaching concepts; while narrow scope of teacher education particularly among senior primary teachers has been perceived by 91.67 percent respondents. However, 63.33 percent respondents disclosed that there is no innovation in the teaching methods. Hence, lack of motivation of trainee teachers for adoption of modern teaching methods, non existence of strict rule of law for delivery at classroom, teacher evaluation for teaching skill development, weaker academic background of teachers and lack of teacher skills to deliver at classroom what they learn in the training on modern teaching concepts as well as narrow scope of teacher education particularly among senior primary teachers were the issues related to inefficient delivery of teacher at classroom level.

Table 4: Perceptions of teacher trainers on general issues related to inefficient delivery of teacher trainees at classroom level (n=60)

Sr#	Problems	Freq	%
1.	No innovation in the teaching methods	38	63.33
2.	Short proportion of teacher trainees are motivated for modern teaching methods	60	100.00
3.	Weaker academic Background of teachers and learners	59	98.33
4.	Narrow scope of teacher education particularly among senior primary teachers	55	91.67
5.	Teacher trainees lacking skills to deliver at classroom what they learn in the training on modern teaching concepts	58	96.67
6.	Need of strict rule of law for teacher trainees for effective delivery at classroom	60	100.00
7	Need of strict evaluation of trainee teachers by an independent body for their teaching skill development	60	100.00

Issues related to evaluation of teacher trainees

All the 60 respondents were asked to show their perceptions on the issues related to evaluation process of teacher trainees and their responses (Table 5) indicated that 100 percent of the teacher educators were found suggesting that daily report of classroom progress may be obtained like strict implementation of biometric attendance system; and weaker administrative setup and teacher union/association is the key factor for deteriorated teacher performance at classroom. The data further showed that the teacher trainees' demonstration at classroom is essential and this demonstration may be witnessed by the expert teacher educators as suggested by 91.67 percent respondents. Some 85.00 of the respondents suggested monthly refresher courses followed by an evaluation test of teacher trainees; while 73.33 percent of the respondents were of the opinion that community members needs to be involved to report for quality of teaching and progress at all school levels and their report may be given due consideration. Indiscriminate strong evaluation process of trainee teachers has been suggested by 81.67 percent of the respondents. The study suggested that daily report of classroom progress may be obtained by accessing internet at all school levels as in the case of biometric attendance system; severe adverse effects of union/associations of teachers; demonstration of teacher trainees at classroom level; organization of monthly refresher courses followed by an evaluation test of teacher trainees; involvement of community members for reporting teacher performance, teacher

attitude and independent student evaluation at all school levels; indiscriminate evaluation process of trainee teachers.

Table 5: Perceptions of teacher trainers on evaluation process of teacher trainees (n=60)

Sr#	Problems	Freq	%
1.	Like biometric attendance, daily report of school may be obtained online	60	100.00
2.	The teacher trainees demonstration at classroom	55	91.67
3.	Monthly refresher courses followed by an evaluation test of teacher trainees	51	85.00
4.	Community members needs to be involved to report for quality of teaching	44	73.33
5.	Weaker administrative setup and Teacher association is the key factor for deteriorated teacher performance at classroom	60	100.00
6.	Indiscriminate strong evaluation process of trainee teachers	49	81.67

Conclusion

Though, the alignment between curriculum and assessment modes is a factor by which the teacher is facilitated for pedagogic practices, the forms of assessment including formative and summative that is used by teacher in regards to the curriculum; but the approach of mixed methods to understand practices of assessment and their association to pedagogy and learning of student over time can fill this gap. The impact of school or examinations on pedagogic practices of teachers compared to absence of these or a continuous assessment, need to be taken into account. The levels of learning take place in these classrooms, the processes of curriculum planning carried out in Pakistan and particularly in Sindh province; the extent of encouragement of teacher to participate in curriculum design are also the elements of consideration.

Major issues related to curriculum and its execution

- Shallow practice teaching
- Short teacher training duration
- Lack of culture specific pedagogy

Administrative issues related to teacher education

- Recruitment without considering merit
- Meager financial allocations for various practical and theoretical demonstrations
- Poor teaching supervision
- Lack of education related facilities
- Isolation of teacher training departments

Issues related to inefficient delivery at classroom level

- Lack of motivation of trainee teachers for adoption of modern teaching methods
- Non existence of strict rule of law for delivery at classroom
- Non existence of teacher evaluation for teaching skill development
- Weaker academic background of teachers hinders effective delivery at classroom level
- Narrow scope of teacher education.

Suggestions related to evaluation of teacher trainees

- Daily report of classroom progress may be obtained by accessing internet at all school levels as in the case of biometric attendance system
- Severe adverse effects of teachers associations are reported and suggested to limit the role of teacher associations in administrative matters particularly in appointment of teachers, attendance, effective teaching and evaluation etc.
- The teacher trainees must be examined for demonstration at classroom level and considered successful on the basis of expert opinion on teaching demonstration.
- Monthly refresher courses may be strictly organized followed by an evaluation test of teacher trainees.
- Involvement of community members for reporting teacher performance, teacher attitude and independent student may be ensured.
- Indiscriminate evaluation process of trainee teachers may be ensured.

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