

## **Effectiveness of Pre-service Teacher Education Programme (B.Ed) in Pakistan: Perceptions of Graduates and their Supervisors'**

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### **Abstract**

This paper addresses the evaluation of B.Ed programme of University of Education (UE), Lahore focusing five major content areas: lesson planning, presentation, use of audio visual aids, teaching methods, and assessment skills. The study was conducted on 392 B.Ed passed graduates and their 150 supervisors. Data were collected through two survey questionnaires: one for the B.Ed graduates and other for their supervisors (heads of schools). The results revealed that B.Ed programme was effective in terms of upgrading knowledge and skills in five curriculum areas. The performance of the graduates of UE as elementary school teachers was better in the areas of lesson planning, lesson presentation, and assessment, but relatively less impact was seen in regard to their performance in the use of audio-visual aids and teaching techniques/methods. The female graduates were relatively more satisfied with the curriculum than male. The UE constituent and affiliated colleges need to take measures to improving the areas of 'teaching methods' and 'use of audio-visual aids' such as projectors, multimedia and computer skills of prospective teachers during the B.Ed programme.

**Keywords:** Curriculum Areas, B.Ed Graduates, Supervisors, University of Education

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### **Introduction**

Every educational system in any identified human society requires highly skilled teaching staff to raise the standard of education. Literature shows that no educational system can rise above the quality of its teachers (Commission on National Education, 1959; National Education Policy 1998-2010). The Report of the Commission on National Education (1959) further adds that "the teacher should be academically well trained in subjects he teaches and have had sound professional training to teach his subjects".

The efficiency and effectiveness of training of the graduates in different educational programmes is valued by the different authors. As a result of better training, both trainer and trainee learn more. Oyitso (1997) states 'training is conceived as an organized procedure by which people

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learn and acquire knowledge and skills for a definite purpose'. Nwanchukwu (1990) perceives training as the process of increasing human efficiency through which people are offered the opportunity to acquire new skills and current knowledge required in carrying out various specialized tasks in their place of work.

Ayers (1989) found that the performance of the institution may be assessed through follow-up studies and the questionnaires or interview may be administered to the participants to find out how much they are using what they learned in the institution. Nietfeld and Cao (2003) assert that the effectiveness of teacher education programmes at changing student beliefs and ensuring a deep understanding of pedagogical knowledge is mixed at best. Alawiye and Williams (2001) state that, teachers must have both basic knowledge about teaching and the ability to teach under real time constraints. Lacking either, the teacher is ill prepared. Smith and O'Day (1990), who were the earliest advocates for standards-based reform, envisioned a reform that was systemic, affecting all aspects of the educational system, and long-term. They placed considerable emphasis on professional development for both pre-service and in-service teachers and for conditions that would enhance teacher professionalism. Hemambujam (1983) found that, the B.Ed. curriculum in Tamil Nadu was not effectively implemented due to time shortage and internal assessment. In the context of Pakistan, Ali (1998) found that the staff of the GCET is poorly trained and under-motivated, use inappropriate methods and do not supervise the teaching practice of student teachers in a way likely to enhance teaching skills. Assessment of the prospective teachers depends entirely on rote learning. Hussain (2003) found that the teachers of GCETs mostly use the writing board and charts as an audio-visual aids while projects, multimedia and computer are not used at all. Lecture method was mostly used in teacher education.

The effectiveness of any educational programme is assessed in numerous ways. Cao and Nietfeld (2005) investigated that the effectiveness of instructional programme increases when teachers include reflection on instructional goals, students' characteristics and needs, content level and sequences, teaching strategies, materials, and other issues related to curriculum, instruction, and assessment before, during, and after lessons. Systematic follow up with teachers after trainings is central to their professional development. Their performance in the classroom should be regularly assessed by the principal and other senior teachers to evaluate the quality of their training, their subject knowledge as well as their classroom delivery and management skills (UNESCO, 2006). According to Moore (2004), teachers are trained in the acquisition of certain competencies related to aspects of classroom management, lesson planning, recording and reporting students' work leading to the achievement of prescribed, assessable and (presumably) acquired-for-life 'standards'. Farooq and Shahzadi (2006)

quote Andrew, effective teacher much internalize knowledge and skills so that they can deploy them quickly and flexibly. Moon, Mayes and Hutchinson (2004) indicated that there are three main factors within teacher's control that significantly influence pupil achievement: professional characteristics, teaching skills, and classroom climate. McBer (2000) further investigated that teacher is not only career and nurturer but he should also exhibit nine discrete 'teaching skills' for effective teaching like high expectations planning, methods and strategies, pupil management, time and resources management, time on task, lesson flow, assessment, setting appropriate and challenging homework. Soon (2004) found that the skills of graduates of Postgraduate Teaching Course (PGD) in Malaysia in developing the tests and making students' report need to be upgraded. Khan (2004) indicates that the pre-service programmes have added little value to teachers and directly reflects on the poor level of instruction and curriculum of the pre-service programmes.

Diem (2002) found that the impact of any programme is gauged from the ultimate change in people's attitudes or behaviours, or benefit in other ways like skills learned during the programme. Wong (2004) also argues that moving forward to measure participants' change in behaviour widens the focus of the profession development evaluation studies. Guskey (2000) pointed out that there are some reasons for the growing interest in evaluating professional development (PD). These include: better understanding of the dynamic nature of PD; recognition of PD as an intentional process; the need for better information to guide reform efforts; and increased pressure for accountability.

In order to enhance the quality of teacher education programmes, their continuous evaluation is essential due to two main reasons. Firstly, teacher education programmes are being challenged to undergo major changes that will ensure that all beginning teachers are prepared to teach all the students. Secondly, global developments are asking for a rapid change in the attitudes and practices without reshaping or restructuring the current teacher educational programs. Shahid (2007) states that, the effective pre-service professional preparation leads to profession commitment and excellence in teaching. For that purpose the Directorate of Staff Development (DSD) took a number of initiatives for the professional development of teachers by introducing various programmes such as Subject Matter Improvement Course, and Teaching Skills Development Course (Saeed, 2002); and Continuous Professional Development of primary school teachers (Directorate of Staff Development, 2006).

Evaluating the outcomes of teacher education programme requires firstly a definition of what we expect teacher education to accomplish and influence in terms of candidate knowledge, skills, and dispositions and, secondly, means for measuring these things. As Cochran-Smith (2001) has observed, the question that is currently driving reform and policy in teacher

education is referred to as “the outcomes question.” This question helps to conceptualize and define the outcomes of teacher education for teacher learning, professional practice, and student learning. The educationists admit the importance of assessing the programme as a result of further help to improve the quality of any programme. Muraskin (1993) states that an evaluation can be an important tool in improving the quality of a prevention programme if it is integrated into the fabric of a programme rather than added on after the fact. Programme personnel are more likely to use the results of an evaluation when they play a role in deciding what to examine, conducting the evaluation, and interpreting the results. Muraskin (1993) further adds four main reasons to conduct evaluations of the institution: 1) determine the effectiveness of programmes for participants; 2) document that programme objectives have been met; 3) provide information about service delivery that will be useful to programme staff and other audiences; and 4) enable programme staff to make changes that improves programme effectiveness.

To assess whether or not academic process of UE meets the objectives of the B.Ed programme, there is a need for a proper procedure to gauge the quality of graduates produced by the UE, Lahore. It has been observed that the true mechanism for evaluation and feedback of prospective B.Ed graduates at UE and then in the schools is perhaps weak. No adequate research is available to evaluate the B.Ed programme and then the performance of these graduates in the schools. Perhaps this is needed in the context of improvement in B.Ed programme in the light of teachers working experience in the primary and elementary schools. Therefore, it was imperative to investigate the effectiveness of B.Ed programmes by inviting opinions of the passed graduates of UE which may help to improve the B.Ed curriculum and other methodological issues. It may also be significant for the schools to raise the standards of teaching and assessment at primary and elementary levels. The study was based on two objectives: 1) Assess the relevance and effectiveness of B.Ed programme in regard to the job performance of graduates as elementary teachers; and 2) Investigate the impact of B.Ed curriculum on the performance of graduate teachers in primary and elementary schools. In order to achieve these objectives, following of the two research questions were developed.

### **Research Questions**

1. How do graduates perceive the relevance and effectiveness of B.Ed pre-service teacher education curriculum at UE?
2. How do supervisors perceive about the relevance and effectiveness of the B.Ed pre-service teacher education programme with regard to their subordinates' job performance as elementary teachers?

## Methodology

That section of the article includes description of population, sample selection, process of developing and validating instruments, data collection and data analysis strategy of the study.

## Population and Sample

The accessible population of this study was comprised of 3915 graduates of the B.Ed programme of UE, Lahore class who were graduated since 2002 to 2005 belonged to the 11 GCETs spread through out the province of Punjab. The selection of institutions was drawn using a two-stage stratified cluster sampling design. These institutions were different on the basis of the students' enrolment. Therefore, at first stage of the survey, 11 GCETs were selected as clusters to make it possible to obtain accessible populations from three strata. At second stage, the simple random sampling technique was used to select the sample from accessible population. Borg and Gall (1979) suggest that survey research have no fewer than 100 cases in each major subgroup and twenty to fifty in each minor subgroup. The 392 graduates and 150 heads of schools (supervisors) were included in the sample. Each head included in this study was the immediate supervisory official of one or more of the graduates of the GCETs.

## Instrumentation

Data were collected by developing two survey questionnaires – one for the B.Ed graduates and other for their supervisors. The questionnaires for the graduates and supervisors had two parts: biographical information and opinions on 5-point rating scale-strongly agree, agree, uncertain, disagree, and strongly disagree based on 39 items. The items were developed on five major themes: lesson planning, lesson presentation, audio visual aids, teaching techniques/methods and assessment. Many items in the questionnaires of graduates and heads of schools were the same so as to make possible comparisons between both stakeholders.

The instruments were validated through experts' opinions, followed by a pilot study on a small sample of both stakeholders in Mianwali in mid 2006. In the light of experts' opinions and the pilot study, the items were improved in terms of language, format/style, and content. The reliability of both instruments; graduates and supervisors' questionnaires were established at 0.87 and 0.895 Cronbach's Alpha, respectively which was acceptable to launch the study at large scale (Gay, 2000).

## Data Collection and Analysis

The whole activity of data collection was carried out with the help of eleven research associates and personal visits of the principal researcher followed by necessary discussions with the co-author. Each associate was

requested to collect data from one GCET/UCE as per convenience according to the instructions already conveyed to them personally or via email or telephone. To seek high response rate, follow up was made twice a time at each centre. The analysis was mainly divided into three parts. Part-I covered the composition of the sample of graduates and their supervisors. The simple frequency and percentage technique was used to describe the composition of sample. Part-II shows the factor-wise and item-wise responses of the graduates and supervisors in terms of mean scores and standard deviation. Part III shows analysis through the use of t-test for independent samples to investigate significant differences at 0.05 in the perceptions of graduates and their supervisors, and male and female graduates in regard to the relevance and effectiveness of each curriculum content area of B. Ed programme.

## Discussion of Results

This section deals with the interpretation and discussion of results. In the first part, response rate and analysis of biographical information have been described. The second part deals with the perceptions of students about five core content areas. The third part discusses the comparative view of the perceptions of the students and their supervisors.

### Response Rate and Analysis of Biographical Information

The data was analyzed by using SPSS version 12. The analysis revealed that the overall response rate for graduates and their supervisors was 77.55% (N=304) and 71.33% (N=107) respectively. The first part of the both instruments contained the biographical information. As reflected in Table 1, the analysis revealed that 65 % of the graduates held B.A, 4 % B.Sc, 28 % MA and 3 % M.Sc. Hence it shows that seven of the ten respondents held bachelor degrees, while three of the ten held master degrees.

Table 1

Summary table of Demographic Characteristics of Graduates of GCETs

Variable	Category	Frequency	Percent
Gender	Male	84	28
	Female	220	72
	Total	304	100
Age	Less than 25 year	189	62
	25—34 year	94	31
	35 year and above	21	7
Academic Qualification	BA	197	65
	B. Sc	13	4
	MA	85	28
	M. Sc	9	3
Teaching Experience	Less than one year	170	56
	One to two years	134	44

In regard to the teaching experience, 56% graduates had an experience of less than one year and 44% between one to two years at elementary level. Age-wise, 62 % of graduates belonged to the age group less than 25 year, 31% belonged to the age group 25-34 year, 7 % to the age group 35 and above. It shows that the most number of graduates were belonged to age group less than 25 years.

Table 2  
Summary table of Demographic Characteristics of Supervisors

Variable	Category	Frequency	Percent
Gender	Male	56	52
	Female	51	48
	Total	107	100
Age	Less than 25 year	8	7
	25—34 year	28	26
	35 year and above	71	67
Academic Qualification	BA	28	26
	B Sc	4	4
	MA	69	64
	M Sc	6	6
Professional Qualification	PTC	13	12
	CT	7	7
	B. Ed.	63	60
	M Ed.	22	21
Teaching Experience	Less than 5 year	17	16
	5—10 year	22	21
	11—15 year	24	22
	Above 15 year	44	41
Administrative Experience	Less than 5 year	42	39
	5—10 year	29	27
	11—15 year	13	12
	Above 15 year	23	22

The first part of the supervisors' questionnaire analysis as reflected in Table 2 revealed that 26 % of the supervisors held B.A, 4 % B.Sc, 64 % MA and 6 % M.Sc. Hence it shows that seven of the ten respondents held master degree, while three of the ten held bachelor degree. In regard to the professional qualification, 12 % of the supervisors held PTC, 7% CT, 60% B.Ed and 21% M.Ed. Hence it shows that eight of the ten respondents held at least B.Ed degree, while two of the ten held PTC or CT. In regard to teaching experience: 16% supervisors had an experience of less than five year; 21% between 5-10 years, 22% between 11-15 years and 44%; 15 years or more. It shows that majority of the supervisors had 15 years or more teaching experience. As regards administrative experience, 39% supervisors had an experience of less than five year; 27% between 5-10 years, 12% between 11-15 years and 22%; 15 years or more. It shows that majority of the supervisors had less than 10 years administrative experience. Age-wise,

7% of supervisors belonged to the age group less than 25 year, 26% belonged to the age group 25-34 year, 67% to the age group 35 and above. Hence the majority of the supervisors were belonged to age group more than 35 years.

### Perceptions Related to Core Content Areas

The first research question was, "How do graduates perceive the relevance and effectiveness of B.Ed pre-service teacher education curriculum of the University of Education?" The graduates' perceptions about the relevance of the curriculum were assessed, based on their responses to each of the curriculum content-related areas including 38 survey items. Each of the five core curriculum content areas: lesson planning, presentation, use of audio visual aids, teaching methods/techniques, and assessment skills were represented by a set of content-related survey items. The content area of lesson planning ranked at the top while the area of audio visual aids ranked at the bottom, as can be seen in Table 3.

Table 3

Comparison of the graduates and supervisors' perceptions about the five curriculum content areas of pre-service teacher education programme

Curriculum Content areas	Graduates (N = 304)		Supervisors (N = 107)		t-test
	Mean	SD	Mean	SD	t
Lesson Planning	4.2854	.54024	4.1014	.65717	2.848*
Lesson Presentation	4.2023	.55780	4.1675	.66276	.527
Audio-Visual Aids	3.7481	.67711	3.3976	.81769	4.341*
Teaching Techniques/ Method	3.9632	.62211	3.7075	.75096	3.446*
Assessment	4.1151	.61619	4.0189	.58944	1.400

Note. \* $p < .05$ ,  $df = 409$

Item-wise analysis of 'lesson planning' depicts that the graduates showed agreement concerning all four statements (Table 5). The highest-rated item was 'identify the objective of the lesson' had a mean score 4.40. In the second content area 'lesson presentation' graduates approached agreement concerning all the statements however they felt difficulty to deliver a good lesson in the subject of mathematics at elementary level. The highest-rated item was 'deliver a good lesson at elementary classes in the subject of Islamiat' had a mean score 4.47. Item-wise analysis of the third content area 'use of audio visual aids' shows that the graduates approached agreement only first four statements but they thought that they were not capable to utilize overhead projector, multimedia and computer in the teaching learning situation. The least-rated item was 'ability to utilize multimedia', had a mean score 2.54, which clearly reflects that the graduates are not well capable to use audio-visual. In the fourth content area 'teaching



techniques/methods/skills' respondents agreed to a large extent with all the statements but they felt that they had the least skill to apply problem solving method as compared to other teaching methods. The highest-rated item was 'apply lecture method' had a mean score 4.56. The previous research (Ali, 1998; Hussain, 2003; DSD Punjab, 2006) also supports this finding. The analysis of the fifth content area 'assessment' revealed that the graduates agreed with all the statements but their skill in the subjects of mathematics, science and English was weaker as compared to the Urdu, Islamiat and Social Studies. The least-rated item was 'ability to develop achievement test in mathematics' had a mean score 3.87.

Table 5

Comparison of the graduates and supervisors' perceptions about the each item of five curriculum content areas of pre-service teacher education programme

Items	Mean Score		t
	Graduates (N = 304)	Supervisors (N=107)	
<b>Lesson Planning</b>			
Identify objectives of lesson	4.4013	4.2453	1.758
Select the content related to the objectives of the lesson.	4.1579	3.9811	1.977*
Organize the relevant material related to lesson.	4.2533	4.0660	2.079*
Plan lesson in different subjects for elementary classes.	4.3289	4.1132	2.209*
<b>Lesson Presentation</b>			
Explain the different concepts in the lesson.	4.4046	4.1792	2.728*
Present information in a systematic way.	4.0461	4.0660	-.207
Deliver a good lesson at elementary classes in the subject of: Math	3.8158	3.9811	-1.338
English	4.1941	4.0660	1.212
science	4.0362	4.0000	.323
Urdu	4.4474	4.2925	1.609
Social study	4.2039	4.4717	-1.358
Islamiat	4.4704	4.2830	1.790
<b>Audio-Visual Aids</b>			
Select appropriate AV aids for the presentation of the lesson.	4.0724	3.8208	2.305*
Utilize the following teaching aids:			
writing board	4.6974	4.6132	1.084
Utilize the charts	4.3684	4.0189	3.391*
models	3.9737	3.5566	3.374*

Items	Mean Score		t
	Graduates (N = 304)	Supervisors (N=107)	
Overhead projector	3.1678	2.8208	2.263*
Multimedia projector	2.5362	2.2736	1.849
Computer	3.4211	2.6792	4.783*
<b>Teaching Technique/Methods/Skills</b>			
Apply the following Methods: Lecture method	4.5559	4.4811	.807
demonstration	3.9836	3.7264	2.434*
assignment	4.1579	3.8491	2.718*
presentation	4.2500	3.7547	4.442*
problem solving	3.6349	3.4717	1.300
activity based	3.9605	3.4906	3.662*
Use following techniques of art and craft: pencil sketching	3.9309	3.8302	.791
geometrical shape	3.7105	3.5755	1.081
waste material	3.7105	3.3585	2.589*
Conduct action research in classroom problems.	3.7368	3.5377	1.678
<b>Assessment</b>			
Develop achievement test in the subject of: Math	3.8684	3.8868	-.148
English	4.0855	4.0660	.179
Science	4.0757	3.9623	1.024
Urdu	4.3553	4.1038	2.552*
social studies	4.2138	4.0849	1.276
Islamiat	4.3750	4.2642	1.064
Monitor the progress of the students.	4.1250	4.0189	1.088
Diagnose learner difficulties during teaching learning process.	3.9934	3.8962	.920
Maintain the cumulative record of the students' performance.	3.9441	3.8868	.554

Note. \* $p < .05$ ,  $df = 409$

The second research question was, "How do supervisors perceive the relevance and effectiveness of B.Ed pre-service teacher education programme with regard to their subordinates' job performance as an elementary teacher?" The supervisors' perceptions about their subordinate performance relevant to the lesson planning, presentation, use of audio visual aids, teaching methods and assessment skills were also assessed, based on their responses to each of the content-related survey items. Item-wise analysis shows that the highest and lowest mean ratings were the same for the supervisors and B.Ed graduates of GCETs. The highest-rated content

item for supervisors had a mean value of 4.61, while the lowest mean score was 2.27.

### **Differences in Graduate and Supervisor Perceptions**

One of the key concerns of the study was to investigate the difference in the perceptions of the graduates and their supervisors with respect to the relevance and effectiveness of B.Ed programme on their job performance as elementary school teachers. The null hypothesis ( $H_{01}$ ) to be tested was 'there is no significant difference in the perceptions of graduates and supervisors with respect to the relevance and effectiveness of B.Ed programme on their job performance as elementary school teachers.' For this Independent Samples t-test was applied to investigate the significant differences in the perceptions of graduates and their immediate supervisors regarding the relevance of each content area in the B.Ed pre-service teacher education programme (Table 3).

Analyzing the five curriculum content areas, as regards first area of 'lesson planning' the mean score of graduates was higher than their supervisors by 0.18 which shows a marked difference in the opinions of graduates and supervisors. The mean scores for the graduates and their supervisors were 4.29 and 4.10 respectively. Two-tailed t-test demonstrated significant difference in the perceptions of the graduates and their supervisors' perceptions.

The second curriculum content area was 'lesson presentation'. Results revealed that there was no statistically significant difference in perceptions of graduates and their supervisors. The mean scores for the graduates and the supervisors were 4.20 and 4.17 respectively. Both stakeholders perceived about 'lesson presentation' the same.

The third curriculum content area was 'use of audio visual aids'. The difference between mean score in the perceptions of graduates and their supervisors was 0.33 which shows a little difference in the opinions of the graduates and the supervisors. The t-value (4.34) for curriculum content area for the 'use of audio visual aids' is significant at  $p \leq 0.05$  level of significance, therefore the null hypothesis with respect to use of audio visual aids was rejected, as can be seen in Table 3. The mean scores for the graduates and supervisors were 3.75 and 3.40 respectively.

As regards the fourth curriculum content area 'use of teaching techniques/ methods, a significant difference was found in the perceptions of graduates and their supervisors. The t-value (3.45) for curriculum content area for the 'use of teaching techniques/methods' was significant at  $p \leq 0.05$  level of significance, therefore the null hypothesis with respect to 'use of teaching techniques/methods' was rejected, as can be seen in Table 3. The mean scores for the graduates and supervisors were 3.96 and 3.71 respectively.

As regards the fifth curriculum content area ‘assessment’, a significant difference in perceptions of graduates and their supervisors was found. The mean score for the graduates and supervisors were 4.12 and 4.02 respectively, which shows that both stakeholders had similar views about assessment techniques.

### **Differences in Male and Female Graduates’ Perceptions**

One of the another key concerns of the study was to investigate the difference in the perceptions of the male and female graduates with respect to the relevance and effectiveness of B.Ed programme on their job performance as elementary school teachers. The null hypothesis ( $H_{02}$ ) to be tested was ‘there is no significant difference in the perceptions of male and female graduates with respect to the relevance and effectiveness of B.Ed programme on their job performance as elementary school teachers’. Independent Samples t-test was applied to find the significant difference in the perceptions of male and female graduates. The results revealed no statistically significant difference in perceptions of male and female graduates. The t-value (-.505) for all curriculum content areas was not significant at  $p \leq 0.05$  level of significance, therefore the null hypothesis ( $H_{02}$ ) was accepted. The mean scores for the male and female graduates were 4.04 and 4.07 respectively (Table 4).

Table 4

Comparison of the male and female graduates’ perceptions about the combined five curriculum content areas of B.Ed programme

Gender	N	Mean	Std. Dev.	<i>df</i>	t
Male	84	4.0402	.51723	302	-0.505
Female	220	4.0715	.46838		

\* $p < .05$

### **Conclusions and Recommendations**

The findings of the study reveal two major conclusions. First, the B.Ed pre-service teacher education programme at UE is relatively better in the curriculum content areas of lesson planning, lesson presentation, and assessment skills, but the areas of use of audio-visual aids and teaching techniques/methods are weak. Previous researches (Ali, 1998; Hussain, 2003; Soon, 2004; Khan, 2004) support this finding. Second, female graduates were relatively more satisfied with their male counterpart with regard to the relevance and effectiveness of B.Ed programme on their job performance as elementary school teachers.

On the basis of these conclusions, following recommendations are put forwarded for the planners, policy makers, and academicians of teacher education institutions;

- The UE and concerned college staff should think ways to improving the ability of their prospective teachers in the use of overhead project, multimedia and computer for teaching learning process.
- There is a need to give special focus on development of achievement test and lesson presentation skills of prospective teachers, especially in the subject of mathematics.
- The heads of colleges may improve the performance of their prospective teachers by using effective techniques in establishing good relationships among teaching staff and engaging them in co-operative learning.
- The frequency of the refresher courses designed for teachers of GCETs at district or provincial levels should be increased. Moreover, in such training courses, emphasis may be given on activity-based and problem solving ‘teaching methods’ and ‘use of audio-visual aids’ such as projectors, multimedia and computer for teaching learning process.
- Directorate of Staff Development, Punjab may plan to provide professional support to the GCETs staff such as initial and ongoing training programmes, developing teacher guides, lesson plans and instructional materials to improve their performance.
- More research is needed in this area to assess the effectiveness of B.Ed programmes offered in other higher level institutions.

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