PROFESSIONAL COMPETENCY ENHANCEMENT PROGRAM FOR TEACHERS CONDUCTED BY HIGHER EDUCATION COMMISSION: AN EVALUATION

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CERTIFICATE

This thesis entitled "Professional Competency Enhancement Program for Teachers conducted by Higher Education Commission: An Evaluation' submitted by Ishrat Siddiqa Lodhi in partial fulfillment of PhD degree in Education, has been completed under my guidance and supervision. I am satisfied with the quality of student's research work and allow her to submit this thesis for further process as per IIUI rules and regulations.

Date: ----------

Signature: ----------

Name: ----------

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List of Abbreviations

CPD	Continuous Professional Development
DA	Daily Allowance
HEC	Higher Education Commission
HRD	Human Resource Development
IED	Institute of Educational Development
NAHE	National Academy of Higher Education
PCEPT	Professional Competency Enhancement Program for Teachers
SPSS	Statistical Package for Social Sciences
TA	Travelling Allowance
UGC	University Grants Commission

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Abstract

The present study was conducted to evaluate one month Professional Competency Enhancement Program for Teachers (PCEPT) which was conducted by Higher Education Commission. The objectives of the study were to analyze the implementation status of the PCEPT Program for the university teachers; to identify the problems faced by the faculty members during the PCEPT course; to explore the problem areas from the perspective of Course Coordinators of the program and the Resource Persons; to analyze the effectiveness of the seven modules included in the training package; and to conduct a discipline based analysis of the respondents trained under the PCEPT course. The findings will help management body of Higher Education Commission in improving the quality of its largest radius training program. Descriptive research design was used and three questionnaires were used to collect the data from the course participants'; resource persons' and the university coordinators of the program. In total the sample consisted of 790 course participants, 100 resource persons and 30 university coordinators selected through stratified random sampling technique. The findings of the study revealed that with respect to academic quality or usefulness of the modules, except Research Methods and Skills, all the modules were rated in average/above average category. Results showed that best resource persons were available for the module Learner's Psychology and Academic Planning and Management. But for the module Research Methods and Skills the quality of resource persons was not up to the mark. Regarding the problems faced by the course participants, lack of any reward or visible recognition for attending the course was the highest rated problem. According to the coordinators, accounts clearance by the Resident Auditors of the universities; handling the accounts related matters of the program and less financial allocation was the most problematic area in the coordination of the PCEPT courses. According to the resource person the number of sessions was not enough keeping in view the breadth and depth of the content. The results revealed that the highest percentage representation was from the discipline of Engineering and then Social Sciences while the lowest represented fields were Law and Library sciences. The reason may be due to less number of faculty inductions in these fields. The proposed recommendations were; offering the training programs relevant to the subject related requirements of the participants; module revision; and increased financial allocation for the program in order to improve the quality of the training program. Moreover, this program should be made compulsory for the new inductees as well as existing teachers serving in the system and rewards may be given to the participating faculty members.

CHAPTER ONE

INTRODUCTION

The quality of teaching and learning in higher education has been seriously addressed over the past few decades through improving instruction. Due to this evolution, the topic of instructional development through the capacity building of teachers is emerging around the globe. Due to heavy investment in the field of instructional development, the concerned authorities are questioning the instructional developing units that whether their efforts are paying back desired results or not (Brew 2007). To answer the questions of tax payers and policy makers at national level it is important to have a systematic evaluation of the instructional development initiatives.

Evaluation of Training is defined by McNally (2006) as: "It is the process of collecting data to assess the effectiveness of a training program in terms of benefits to the trainees and the institution". Most instructional development (ID) models include "Evaluation' as the fundamental part for having improved results. The tools and methodologies for evaluating the program are helpful for determining the effectiveness of instructional interventions. Even after realization of the importance of the evaluation, there is strong evidence that in many cases evaluation of training programs is often erratic or is completely missing (Carnevale and Schulz, 1990; McMahon and Carter, 1990; Holcomb, 1993). The researches carried out in this area have given several possible explanations for these inadequate and inconsistent evaluations, which include: insufficient time allocated; insufficient allocation of

financial resources; lack of expertise; blind trust in training solutions; or inadequate methods and tools (see, for example, McEvoy and Buller, 1990).

In Pakistan, training is given less importance and in some cases where training programs are organized, it is generally a misconception that the training evaluation is just an expensive and time wasting process that is conducted at the end of each training activity and most of the time it does not lead to any drastic changes. In contrast to this misconception, researchers have proved the fact that effective evaluation is a valuable tool to enhance the results of the inputs charged, in the form of time and money, on the professional skills enhancement of the teachers. But for the process to be more effective, it is recommended that it must be built-in throughout the training activity right from its beginning. Evaluation is the only source of getting accurate feedback for brining improvement and setting direction for the future training programs. (NCREL, 2008)

There are very few studies conducted on the topic of teacher's professional development at higher education level. Teacher's training program evaluation is very critical as it provides feedback about the quality of existing programs and furthermore the results of evaluation suggest the direction for a more improvised implementation of the future training programs keeping in view the needs of the faculty members. (Ramalanjaona, 2003).

It is one of the aims of Pakistan's National Education Policy 2009 that in order to build the content and methodological expertise, educators must be provided with professional development opportunities. The policy document states that Faculty are the heart and soul of the university, and without an active and well qualified faculty it will not be possible to have meaningful development in this sector. It further states

that Faculty training in pedagogical, communication and ICT skills is required at all levels to enhance the efficiency of teaching in higher education.

Faculty development is one of the key pillars of Higher Education Commission's strategic reforms. In order to bring quality in the higher education classrooms, there was a need for constant quality enhancement process of the existing faculty serving in HEI's across Pakistan. Keeping in view this goal, National Academy of Higher Education (NAHE) project was launched in 2004, in order to cater the professional development and pedagogical skills enhancement needs of the university faculty across Pakistan. NAHE was launched with the mission of extending professional development support at the doorstep of universities.

NAHE project is working on national scale for the continuous professional development and skill enhancement of the university and college faculty across HEI's of Pakistan. In the absence of pre-service training mechanism for university and college teachers NAHE has been given the national mandate to cater to in-service existing teaching faculty reaching maximum number through its one month intensive in-service faculty development program titled as Professional Competency Enhancement Program for Teachers (PCEPT) which is conducted at the doorstep of the universities.

NAHE extended support to 51 public sector universities across Pakistan through this course. In total, 1577 faculty members were imparted training through this course till now. PCEPT is the most far reaching and widely appreciated program of NAHE/HEC having the specialty of enhancing the teaching skills in a very limited budgetary framework supporting the universities at the doorsteps.

One of the crucial factors is that providing a professional development training program at the doorstep is not the central focus of NAHE, but ensuring the quality and bringing improvement in the pedagogical skills of the university faculty is the ultimate aim. Besides this fundamental baseline, it is an obvious fact that a training activity which has been proved very successful for a university system at one stage, may or may not be appropriate even for another stage of the university system. The planners have to keep in mind this very crucial contextual variable when planning and implementing any professional development programme.

Hence, crux of the matter is to facilitate the university system in providing a qualitative platform for achieving its major milestones. A huge amount of finances have been allocated for the training of teachers under PCEPT Program. HEC has been criticized for spending this huge budget in higher education sector and it is important to evaluate that to what extent this investment is effectively used and is being facilitating the faculty members and universities. Keeping in view this situation, the researcher selected the topic for conducting a thorough study on the evaluation of the PCEPT program.

Now the question is: to what extent NAHE's PCEPT training program was implemented successfully and considering this analysis a baseline, how the future training programs can be made more responsive to the needs of higher education faculty. In order to address the question, the study tapped those faculty members who were directly part of these training programs as participants.

The present study focused on the evaluation of the PCEPT training course that was conducted by NAHE under the auspices of Higher Education Commission, Islamabad. The purpose of this evaluation was to make the future training programs aimed at generic skills enhancement, more effective with respect to the academic

quality, administrative and logistics arrangements. The implementation status was assessed through the analysis of the trainings conducted at mass level. The data were collected from the participants of the training program, Resource Persons and Coordinators of these programs at universities. It was descriptive study and questionnaires were developed for the three stakeholders and circulated among 790 participants; 30 coordinators and 100 resource persons selected through random sampling technique.

1.1 Statement of the Problem

Higher Education Commission is making a huge investment in the training of higher education faculty members across Pakistan. This policy is being criticized during the past few years with the concern that some programs are given more priority at the cost of other programs.

Keeping in view the this deliberation, present research was basically a survey study aiming at a thread-bare evaluation of the one month intensive in-service Professional Competency Enhancement Program for Teachers (PCEPT) conducted under the project NAHE from the year 2009-11, at the doorsteps of universities all over the Pakistan and development of mechanisms for the improvement of these programs.

1.2 Objectives of the Study

The objectives of the study were:

1. To analyze the effectiveness of the modules included in the training package.

2. To evaluate the quality of resource persons engaged in teaching different modules of the training.
3. To identify the problems faced by the faculty members due to their participation in the Professional Competency Enhancement Program.
4. To explore the problem areas from the perspective of Course Coordinators of the program and the Resource Persons
5. To explore the quality of logistics of the program from the perspective of the participating faculty members and resource persons.
6. To conduct a discipline based figurative analysis of the participants trained under the PCEPT course.

1.3 Research Questions

The research questions specified for the study are given below:

1. What was the implementation status of the Professional Competency Enhancement Program for Teachers (PCEPT) training conducted under the Project NAHE for the university faculty?
2. What were the problems faced by the university faculty due to their participation in the training course?
3. How much percentage of faculty members was imparted Professional Competency Enhancement Program for Teachers (PCEPT) training from various disciplines?
4. What was the effectiveness of the modules used in the training package?
5. How was the logistics of the program organized during its implementation at mass level?

6. What were the problems encountered by Course Coordinators and Resource Persons?
7. What are the suggestions given by the Course Coordinators, trained faculty members and the resource persons of the PCEPT courses for the betterment of the program in future?

1.4 Significance of the Study

The results of the present research study would be helpful for the policy makers working in NAHE project, because they will have a clear understanding of the problems faced by the participants and the university coordinators of the PCEPT courses. Moreover, they would also come to know the problems in the implementation of the one month PCEPT courses at the doorstep of public sector universities across Pakistan.

Furthermore, through the opinions of the stakeholders involved in these training programs, HEC would be in a better position to improvise these training programs and make them more responsive to the needs of newly inducted faculty at higher education institutions. The results of this study would be helpful for all the public and private agencies working for the professional development of teachers at higher education level in particular and other levels in general.

At a broader level, this research having a broader focus on the instructional development at higher education level, would yield some important findings in this relatively ignored area, for the improvement of teaching learning in higher education classrooms. So the results would have an impact on improving the quality of instruction at higher education level in particular and other levels in general. The results would be useful for the module developers/authors/reviewers as they will be

able to assess the deficiencies identified in their modules. The findings would certainly help the teacher education and training institutes working outside the government setup, as they will have an insight of the training needs of teachers inducted in higher education set-up.

The results of the study would be significant for the financial planners who have to make funding arrangements for the public and private sector universities. They would know the problems related to the funds allocation of the training program. The results would generally be significant for the stakeholders of universities directly or indirectly affected by the training of teachers, and all the direct and in direct beneficiaries of the professional development programs offered for university teachers.

The findings of the research will lay down the foundation for the future researchers who are interested to work in the field of teachers' in-service training. The prospective researchers could use the findings of this study to analyze the usefulness of the training programs conducted under the government and private sector teacher training departments.

1.5 Delimitations of the study

In view of time and resource constraints, this study was delimited as under:

- The data collected in this study was based only on the opinions of the faculty members trained under the PCEPT Program, the Resource Persons engaged in the programs and the Course Coordinators of the courses.
- The present study dealt only with academic, administrative aspects and logistics of the training program. It could not cover the impact of the training program on classroom situation through observation or student opinions or pre/post assessment of participants.

- The data were collected from the trainees who received training during the year 2008 to 2011.

1.6 Operational Definitions

1.6.1 Professional Competency Enhancement Program for Teachers:

Professional Competency Enhancement Program for University Teachers (PCEPT) is a one-month intensive in-service course conducted by NAHE, HEC for the pedagogical skills enhancement of university faculty across Pakistan. It includes seven core modules i.e. Teaching as a Profession; Academic Planning and Management; Curriculum Development, Assessment and Evaluation; Learner's Psychology; Andragogical Skills (Micro-Teaching (Theory and Practice); Communication Skills; and Research Methods and Skills

1.6.2 Evaluation: In this study, the evaluation included probing into the following:

- Implementation status of the PCEPT Courses
- Academic quality of these programs with respect to the objectives of PCEPT Courses.
    - Usefulness of Modules included in the training package
    - Quality of the resource persons engaged in training
- Problems faced by the participating faculty members and their institutions due to the involvement of their faculty in the programs,
- The actual proportion of the faculty trained in each discipline.
- Quality of the Logistic arrangements of the PCEPT courses.

1.6.3 Training Modules: There were seven modules developed by NAHE/HEC in collaboration with seven public and private sector leading universities of Pakistan. The modules are:

1. Teaching as a Profession
2. Academic Planning and Management
3. Curriculum Development, Assessment and Evaluation
4. Learner's Psychology
5. Andragogical Skills
   - Micro-Teaching (Theory and Practice)
6. Communication Skills
7. Research Methods and Skills

1.7 Overall Organization of the Thesis

Chapter 01 presented the background of the study, specified the problem, described the significance of that problem and presented the brief overview of the methodology used. The first chapter concluded by discussing the preliminary aspects of the present study and objectives were set to provide direction to the whole thesis. In order to have simplicity for readers the operational definitions of the terms was also given.

The review of related literature is presented in Chapter 02. Chapter 02 includes the meaning of in-service trainings, its need and importance at higher education level. Then an in-depth discussion on the PCEPT program has been

included and relevant researches for the training program evaluation have been debated and discussed.

Chapter 03 presents a description of research design. The population for the study is sketched. A detailed description of the sample selected and the procedure for sample selection has been discussed. Chapter three also explains the tool used for the collection of data and validation of the tool. A brief on the data analysis methods and procedures is presented in this chapter.

The results of the investigation outlined in Chapter 03 have been presented in chapter 04. This includes a detailed statistical analysis of every item of the tool. In order to present the findings more explicitly tables and graphs have been made. A consolidated analysis of different sections is available and supported by the eye catching descriptions in chapter 04.

Chapter 05 includes the discussion of results. Summary of the major findings and conclusions has been added. Moreover recommendations drawn out of the current research are put forth. Another section elaborates the limitations and directions for future research in chapter 05. At the end there is a list of sources used and quoted in the thesis document.

CHAPTER TWO

LITERATURE REVIEW

This chapter is focused on the review of relevant researches on the topic under study. The chapter is broadly distributed in three portions one portion is focused on general introduction of the in-service training with in-depth focus on Pakistani context; then theoretical framework of the research and the last part is focused on the review of relevant researches.

In-service teachers' training is very useful in enhancing teaching skills of the university faculty. In order to keep abreast with the modern technological advancement, continuous in-service professional development is crucial for the skills enhancement of the teachers even having the highest degrees in education. Changes in the teaching and learning styles at higher education level demand teachers to assume the new roles of facilitator and coach for their students. The new world of teaching demands situating students in real-world contexts, and this challenge can be possibly met through exposing in-service teachers to the new ad innovative world of teaching techniques and methodologies.

2.1 Meaning and purpose of In-Service Training

The meaning of in-service training as described by Dadds (2001) is; "In-service training includes all the formal and informal activities and experiences in which a professional is given a new and fresh insight to deliver his/her professional

roles and responsibilities more efficiently". Hence professional development is meant to make an individual capable of delivering his/her professional responsibilities amicably. The word "insight" is in fact most crucial to plan and implement in the teachers training programs. Dadds definition is only applicable in the situations where an effective professional development is provided to the teachers otherwise it would not serve the purpose.

In-service training of teachers includes "all those educational and training activities engaged in by teachers, following their initial professional certification, and intended mainly to improve the professional knowledge, skills, and attitudes of teachers in order that they can educate their students more effectively" (Bolam, 1998, p. 3). Bolam definition is more effective as it is focused on the development of knowledge, skills and attitudes of the teachers and resultantly they can deliver improved instruction and can educate their students in a better way.

There are following four categories of in-service training as defined by Reimers (2000):

1. Training for unqualified teachers (like certification courses);
2. Training imparted to upgrade knowledge, skills and attributes of existing teachers;
3. Training to prepare existing teachers for assuming new roles, like Master Trainers' or institutional heads;
4. Refresher courses which are curriculum related, these are particularly conducted after some new curricular changes in the system. (Reimers, 2000)

Reimers categories mentioned training which is focused to upgrade knowledge and skills and to prepare the teachers for Master Trainer's role is relevant to the

HEC's training which is evaluated in this research and it is designed and implemented for the university faculty members.

The objective of in-service training and education are multi-dimensional and are useful as guides for working teachers, such as they are not confined only to upgrading teacher's knowledge and skill but also to fostering the continuous professional growth. These aims according to APIED (1993) are focused on:

1. Developing teachers professional competence, confidence and relevant knowledge of the profession
2. To develop criteria which could help them to assess their own teaching role keeping in view the student's level
3. To impart specific knowledge and skills to enable them to keep pace with new trends and modern development in education
4. To enable the teachers to learn new methods of teaching which are the outcomes of the modern researchers?
5. To appraise the current methods and to give suggestions for improvement.
6. To enable the teachers to use instructional technology in class situation.
7. To assess students level of achievement using the modern assessment tools

But the dilemma is that not all training programs are delivering these aims/purposes. In the context of Pakistan training is not a cyclical process which goes on after any stipulated time period. Generally many teachers do not even get any sort f training during their entire professional career and some who get any training reports to have deficiencies in planning the program. So the research focused that whether any of the objectives set by APIED as purpose of training have been achieved for higher education faculty.

2.1.1. Scope of In-Service Teacher's Training

In-service education is an ongoing process which is never supposed to come to an end during the professional life of teachers. It can be provided at any time during the professional life of the teachers. The duration of the training program may range from one hour to number of years depending upon the objectives of the program. However the variation in program duration depends upon the nature of the program in terms of personal, professional group, local institutional and national educational problems and needs arising from time to time due to various changes taking place at different levels in the society and their implications for educational institutions. HEC conducts training programs with variations in duration, some are based on one to six days orientation programs these are referred as short term programs, and some are long term programs with the duration of one to three months.

Regarding the content of the in-service training program, the lengthy debate has directed our focus to an important aspect that more research is needed to understand the nature of teachers' professional knowledge and possibly how it can be used effectively, moreover it has been highlighted with a great concern that there is a lack of knowledge at all levels regarding how to provide the in-service training to teachers in a best possible way yielding the desired results. (Eleonora, 2003).Traditionally, the professional development of teachers was focused on offering courses on the content knowledge and training methodologies, but now the demand is to go beyond these traditional, static, one shot training and explore new trends and bringing content innovation in the provision of professional development opportunities to the educators.

It is expected that teachers in higher education should demonstrate knowledge of their subjects and pedagogies and academic practices underpinned by a wide range of

professional values and attitude. (Nicholls, 2002). Nicholls maintained that in view of the scope of the training program, there must be a balance between the knowledge and values by highlighting some indicators under the two categories i.e. Core knowledge of teachers and Professional values of teachers.

Core Knowledge of teachers should include the following:

1. Knowledge of the subject material they will be teaching;
2. Suitable methods and techniques to be used for teaching the subject matter at the respective level of academic program.
3. Understanding the learning styles of students generic as well as subject specific learning style;
4. Incorporating appropriate technologies in their teaching keeping in view the context they are situated;
5. Use of multiple assessment strategies to assess and evaluate their students
6. Applying methods to evaluate and monitor their own teaching;

PCEPT program focused on the generic teaching skills enhancement of the teachers. It didn't focus on the knowledge of the subject material they are going to teach, neither nay subject related teaching techniques were made part of this training course. However use of technology was to some extent included in some modules as an overview.

The *Professional Values of teachers* should include the following:

1. sound commitment to teaching both as a profession and as his/her individual performance;
2. respect the individual learners and work for their personal development and grooming;

3. sound commitment to the development of learning communities, which will include all the stakeholders i.e. students, parents, fellow teachers and all other directly or indirectly engaged in learning support;
4. assurance to the provision of merit based equality of opportunities to all and encouraging the participation in higher education;
5. Thorough reflection and self-analysis for the purpose of brining improvement in him and his/her teaching. (Nicholls, G, 2002, p. 6)

The module on Teaching as Profession included some of the professional values expected by the teachers at university level. This module included ethics of the profession and how to use reflection as a basis for self analysis and improvement.

The National Education Policy 2009 also emphasizes on the professional development of the faculty members. It states that for college and university teachers a continuous professional development (CPD) programme shall be designed. Besides general pedagogical knowledge, this programme shall include subject-specific courses for the faculty members; in order to cater to the larger audience, larger radius programs shall ensure training of teachers in generic pedagogical skills, subject specific trainings and orientation courses on educational administration.

2.2. Models of Teachers' In-service training / Professional Development

Several models have been developed and implemented in different countries for the promotion of teachers' professional development and making them effective in their actual classrooms. Eleonora (2003) presented those models included in each category, and these are summarized below: The list of models is followed by detailed

description of the inter-institutional model on which the current research study is focused.

2.2.1 Organizational Partnership Models

1. Inter-institutional collaborations
2. Professional-development Colleges
3. Teachers' networks
4. Distance education
5. Colleges' networks

2.2.2 Small group or Individual Models

1. Students' performance assessment
2. Supervision: traditional and clinical
3. Workshops, seminars, courses, etc.
4. Self-directed development
5. Case- based study
6. Skills-development model
7. Co-operative or collegial development
8. Portfolios
9. Reflective models
10. Action research

The Professional Competency Enhancement Program for Teachers (PCEPT) conducted by the project NAHE, which is the topic of current research, is based on the category of organizational partnership models and more specifically it's an *inter-institutional collaboration.* By definition it is a form of collaboration between institutions and other professional organizations functioning outside the formal system of education. A partnership between teachers', institutions and resource professionals working for the teacher education without getting through any formal teacher's preparation are bonded for some period of time which is more than a month

but less than five years. (Bainer, Cantrell, and Barron, 2000) The basic purpose of this collaboration is twofold i.e. for the natural resource professionals it is to acquire various teaching skills and practices, and for teachers it is to develop more skills and knowledge about teaching techniques and methodologies. The results of this partnership had been found very positive on the teachers' involved in the training process. (ibid). Whatever the nature of partnership is, it is important to understand the importance of training program for the teachers who are rendering services in the education set up.

2.3 Need and Importance of Training Programs for Teachers

Teachers' Preparation International Perspective published at State University's website, reported that in many developing countries, there is a dire need of teachers having teaching aptitude and in comparison to the demand, less are entering in the profession, therefore this situation is providing a fertile ground for the initiation and regularization of alternative teacher training programmes. The training programmes already employed, usually include a substantial component of in-service training, and most of the time begin with a `crash course' on pedagogical content knowledge and these programmes are of a shorter duration. (Berry, 2001).

There is a powerful evidence that teachers' pedagogical content beliefs and pedagogical content knowledge can be positively affected by the teachers training programs and these changes are also associated with the positive change in the classroom instruction and in return students' achievement. (Borko and Putnam, 2004, p. 55). Many researchers have argued that there must be smooth shift from teaching the tedious facts to teaching for concept attainment. Malik (1991) is of the view that for developing teachers, training is an essential component. A vital role in the

development of human resources is played by the staff development because it will support the climate of healthy debate and openness which will be helpful in the professional development of the university staff.

According to the research study conducted by McLaughlin and Zarrow (2001); teaching for concept attainment requires "pedagogical content knowledge" (p. 3), the pedagogical content knowledge means that "knowledge of a subject area is not sufficient, unless it is paired with the knowledge of how to select the content--how to teach it, how to best represent, and organize information, linking this information with concepts, and procedures...so that the teaching for content knowledge can be smoothly transformed into teaching for concept attainment.

So teachers training is an important subject to be conducted for the in service teachers irrespective of their level and field. Different countries have adopted different models for the in service training of their teachers. In the UK teachers themselves have a professional duty to review their teaching strengths and weaknesses and then search out the work programs and participate in the arrangements for their CPD courses. (Holt, et.al, 1997). At the government level there are many institutions responsible for professional development activities depending upon the level of teaching. These programs can be institution based, at LEA's teachers centers, at higher education institutions or at an independent training or further education institutions. (Holt et.al, 1997).

There is a great variability in the teachers training programs offered worldwide. Comprehensive efforts have been concentrated on the field of teachers in service professional development as well as pre service training. A good example of such a comprehensive effort to prepare unqualified teachers in-service is carried out in Dallas, Texas (USA), in which faculty from a number of national universities come

to Dallas to offer intensive courses to teachers, who are recruited in the system but do not have certification be the state. These teachers are offered 90 hours of training per semester, and then they obtain the certification and receive credits toward a degree equivalent to master's degree. An evaluation of such efforts shows that teachers are satisfied with this type of professional development training, that they are bringing their newly acquired knowledge and skills into the classroom, and are creating supportive networks of teachers in a variety of settings (Ferguson, 2000).

Another excellent example of an in-service programme of this kind was developed in South Africa in 1991 by Rand Afrikaans University in Johannesburg, and continues to be effective till now (Henning, 2000). This programme offers a combination of face to face education, distance education, institution-based training, and the systematic assessment of prior learning. Teachers who graduate from this programme are given the opportunity to qualify for further-education diplomas offered by South African institutions. Based on an ethnographic study of a small group of teachers, Henning (2000) reports this programme very successful.

Finally, an innovative programme reported in the literature (Ross, 2001) is the 'Newcomers Entering Teaching' programme. This initiative launched in the State of Maine (USA) prepares those who wish to enter a local teacher-preparation programme. Many of those entering the programme hold university degrees but their credentials are not recognized as per state requirements. The State of Maine evaluates this as a positive initiative (Ross, 2001).

2.4 Training of Teachers at Higher Education in Pakistan

In Pakistan, up to the recent past, training of teachers at higher education level has been an ignored area. Majority of the policy documents even didn't consider the need for including any policy measures for the teachers' professional development at higher education level. Moreover in some cases if the programs are conducted, the research says that little effort was made to explore teachers' beliefs and notions about some fundamental educational issues and then build on their notions. Similarly not enough attention was given to attitudinal change.

Another factor that hindered the process of change is the fact that most of the methods and strategies teachers were exposed to in a program were alien to their own context. This was because most of the methodologies were imported from the countries where classroom culture and problems are quite different from ours and teachers found it difficult to make the link of what they were taught and what they are supposed to teach. Participants were rarely exposed to reflective practice or critical thinking to make decisions according to their own culture and community. In the National Education Policy 1979, need for the professional development of teachers' was identified and consequently in 1983, National Academy of Higher Education (NAHE) was launched, which remained functional till 1987 after which it was made dysfunctional.

2.4.1 Establishment of National Academy of Higher Education (NAHE)

University Grants Commission established National Academy of Higher Education (NAHE) for the first time in 1983, later it stopped working in 1987 and then reconstituted in 2004. The major task assigned to the academy was the designing and implementation of professional development trainings for university teachers. The

academy conducted the trainings of 03 months duration for the newly inducted university faculty members during the year 1983-87. The major objective of these programs was to impart teaching skills and certain administrative skills to the faculty members in order to make them active members of the university with respect to academic as well as administrative responsibilities. (UGC, 1983).

2.4.1.1 Objectives of the NAHE, Phase-I:

The objectives of NAHE, Phase-I were:

- To enhance the standards of teaching and learning throughout higher education in Pakistan by promoting practices that demonstrate excellent learning outcomes;
- To enable institutions to develop approaches to teaching and learning that encourages a deeper understanding of the student learning needs;
- To encourage collaboration and sharing of good practice so as to enhance the standards of teaching and to contribute to the information available in the teaching and learning in higher education sector.

The academy also organized professional courses for graduate and post-graduate level teachers; it took the task of revising the curricula for graduate and post graduate level courses; seminars, workshops and professional development courses were organized as well. In short, the Academy for Higher Education conceived development of human resources as its primary function and all types of resources were geared towards this primary function. In 1987 the academy remained no more functional and the task of higher education teachers training was again diminished.

2.4.2 Reconstitution of Academy for Training of Teachers

The National Education Policy 1998-2010 emphasized teachers training as an important component for brining quality in education system of the country. This led to the revival of the National Academy of Higher Education (NAHE) as project, in 2004.

When the University Grants Commission was given the status of Higher Education Commission, Human Resource Development (HRD) was declared as key pillar of Higher Education reforms. HEC's initiatives for the faculty development were two fold. In addition to sending teaching faculty for scholarships abroad and also producing indigenous scholars through sponsoring them up to PhD level, HEC through the project National Academy of Higher Education concentrated its efforts on the teachers training or andragogical skills enhancement of the existing university faculty members serving in HEI's across Pakistan. (MTDF 2010-2015)

Quality assurance in the Higher education sector is ascertained with the quality of teachers who are the nerve center of the system and its management which runs the system. Unfortunately, both the academic and management cadre of the HE systems require a formal pre-service mechanism for their professional training which we don't have in Pakistani universities and colleges. However in the absence of pre-service mechanism HEC, since 2004, is spearheading the role of building and enhancing the capacity of the faculty members of universities and colleges through its exclusive professional enhancement and development programs for University/college teaching Faculty which are conducted under the NAHE project.

2.4.2.1 NAHE, Phase-II Project Objectives

As per PC-1 of the project following objectives were targeted:

I. To impart professional development trainings to **2500** faculty members of higher education institutions, with the emphasis on the enhancement of basic teaching competencies of the faculty members of varied disciplines

II. To impart technology based and research oriented trainings, with the factor of practicality in the teaching learning situation.

III. To enhance computer literacy in the faculty of HEI's.

IV. To organize trainings in the form of workshops/seminars/conferences/lectures for the teachers of HEI's in order to expose them to the modern trends in teaching/education.

V. To enhance the managerial and administrative skills of the personnel involved in conducting these trainings, through national and international forums.

In Phase-II of the Project, NAHE has trained 1577 faculty members from different universities; so the study was focused on the evaluation of the PCEPT training program conducted under NAHE. The pedagogical skill enhancement is one of the key objectives of NAHE and for the purpose, the academy conducted PCEPT courses which included the package of following seven modules: Teaching as a Profession; Academic Planning and Management; Curriculum Development, Assessment and Evaluation; Learners' Psychology; Andragogical Skills; Communication Skills; Research Methods and Skills and Microteaching, Theory and Practice.

2.5 Why to Evaluate a Training Program?

After having discussed the basics of in-service training in general and historical perspective in particular, it is important to underpin the primary reason for the evaluation of a training program. The major purpose of evaluation of the training program is to help the mangers to determine the effectiveness of the training process and outputs and suggesting further improvements in the program for greater impact. It helps the management to change their policies accordingly. For different stages in a process or training, there are different evaluation strategies which serve the purpose appropriately.

Some researchers define effective evaluation as:

> "Evaluation is purposeful if it is intended to validate or ensure that the goals of the program are achieved and to improve the program, by mean of identification and subsequent remediation of problematic aspects if required" – (Weston, McAlpine, and Bordonaro (1995) as cited in Holcomb, 1993).

Bordonaro's definition is comprehensive but it has not emphasized on the procedural components of the program evaluation. The training evaluation is helpful if it intends to bring betterment in the quality of the implementation of the program, not only in terms of the instructional quality but also in terms of organization of the program i.e. logistics, academic content quality and instructional quality. The benchmark for evaluation is to identify and suggest remedies towards the problematic areas of the program.

When the project is at running stage, it is important to evaluate and resultantly all unnecessary policies and practices are removed in order to make the training and

process better. Importance is given to available strengths and efforts are made as an aim to convert weaknesses in to strength.

2.5.1 Approaches to Evaluation

According to Martin Tessmer (2001), formative evaluation is "a judgment of the strengths and weaknesses of a program in its developing stages, for purposes of revising the program to improve its effectiveness and appeal" (p. 11). Tessmer's definition is pointing towards the type of evaluation which is used as an evidence for making decisions for the improvement of the program. It is called formative, because the evaluation is conducted at the developmental stages of the project and the results help in modification of the future programs.

For evaluation of training two approaches are predominantly used i.e. Goal based approach and System based approach (Philips, 1991).

2.5.2 Kirkpatrick Goal Based Evaluation (1975)

Kirkpatrick's work was focused on the goal-based evaluation approach. (Bramley, 1996; Warr et al., 1978). Kirkpatrick's model (1959) is focused around four questions which are in fact four levels of evaluation. These four levels are named as reaction, learning, behavior and results.

The four levels of Kirkpatrick's model on goal-based evaluation neither specify any steps of how to achieve the purposes nor the ways to utilize results for brining improvement in performance through the training. Therefore for the

practitioner it becomes always difficult to make decision on the selection of appropriate method to evaluate (qualitative, quantitative).

Donald Kirkpatrick (1975) provided a framework of four levels of evaluation:

1. Reaction: this stage involves gathering data, at the end of a training program, from the respondents to analyze their reactions
2. Learning: this stage will explore answer to the question that whether learning objectives of the training program have been met or not.
3. Behavior: the third stage will assess that whether the job performance of the trainees has been changed as a result of training or not.
4. Results: the fourth stage of evaluation will consolidate the above three and it will present the bigger picture to assess benefits of training programs, the impact of training on the organization in terms of quality and quantity of work etc. (Kirkpatrick, 1975)

2.5.3 System Based Approaches to Evaluation

Table below presents a comparison of several system-based models (CIPP, IPO, & TVS) with a goal-based model (Kirkpatrick's). The Kirkpatrick model is focused on Reaction, Learning, Behavior, and results. The CIPP Model is based on Context, Input, Process and Product. The IPO Model has four steps that are Input, Process, Output, and Outcomes. The TVS system based model is based on Situation, Intervention, Impact and Value.

Figure 2.1: Goal based and System based Approaches to Training Evaluation

Kirkpatrick (1959)	CIPP Model (1987)	IPO Model (1990)	TVS Model (1994)
1. Reaction: to gather data on participants reactions at the end of a training program	1. Context: obtaining information about the situation to decide on educational needs and to establish program objectives	1. Input: evaluation of system performance indicators such as trainee qualifications, availability of materials, appropriateness of training, etc.	1. Situation: collecting pre-training data to ascertain current levels of performance within the organization and defining a desirable level of future performance
2. Learning: to assess whether the learning objectives for the program are met	2. Input: identifying educational strategies most likely to achieve the desired result	2. Process: embraces planning, design, development, and delivery of training programs	2. Intervention: identifying the reason for the existence of the gap between the present and desirable performance to find out if training is the solution to the problem
3. Behavior: to assess whether job performance changes as a result of training	3. Process: assessing the implementation of the educational program	3. Output: Gathering data resulting from the training interventions	3. Impact: evaluating the difference between the pre- and post-training data
4. Results: to assess costs vs. benefits of training programs, i.e., organizational impact in terms of reduced costs, improved quality of work, increased quantity of work, etc.	4. Product: gathering information regarding the results of the educational intervention to interpret its worth and merit	4. Outcomes: longer-term results associated with improvement in the corporation's bottom line- its profitability, competitiveness, etc.	4. Value: measuring differences in quality, productivity, service, or sales, all of which can be expressed in terms of dollars

Source: (Kirkpatrick, 1975. p.44)

The approach to evaluation in this present study is based on Goal based evaluation in which respondents opinions are gathered to assess whether the learning objectives of the program are met or not and any result in their job performance behavior has occurred. However in addition to that the logistics of the program have also been studied to bring improvement in future programs.

2.6 Theoretical Framework

The present study is based on the evaluation of the training program conducted by NAHE/HEC for the faculty members of higher education institutions. Researchers in this field are of the view that it is important to have constant evaluation of the training programs to upgrade and improve existing standards. The present research

has used the theoretical framework or base line for the evaluation according to the approach proposed by Carr (2002).

According to Carr (2002), there are two categories of training program evaluation: first is whether the required competencies have been learned through the training and second is whether this learning has been applied in case if performance is improved.

2.6.1 Development of Teaching Competencies

There are some competencies which are felt to be necessary for the life i.e. abstract thinking, the capacity to work in teams, ability to solve problems, the ability to communicate effectively etc. (Edwards et al 1996). Measurement of effectiveness or classroom behavior demands the specification of competencies, which should be possessed by an effective teacher. Competency is the ability to cope with certain class of problems encountered on the job. A competent teacher can cope with the professional problems effectively. The questionnaire used in the study contains statements to assess how effectively certain teaching competencies of the teachers have been developed through this course.

There are two broad categories of competencies, first involve teacher's mental abilities and skills, understanding of the psychological and educational principles and subject knowledge, second are directly related to teachers' personality, interests, attitudes, beliefs, and behaviors with students and other individuals. (Kalra, 1997).

Jangira (1999) mentioned the following teachers skills/competencies required for an effective teacher i.e. writing instructional objectives, organizing the content, creating set for introducing the lesson, introducing the lesson, structuring classroom

questions, questions delivery and distribution, response management, explaining, illustrating with examples, using teaching aids, stimulus variation, reinforcement, pacing of the lesson, achieving closure of the lesson, giving assignments, evaluating students' progress, diagnosing students learning difficulties and taking remedial measures.

2.6.2 Assessment of Competency Learning

According to Carr (2002) the assessment of competency learning through any training program can best be conducted at individual level. It is through this individual assessment that teachers' level of understanding the particular competency is judged. The reaction of trainees to the training program can also be judged through this individual assessment. The judgment of trainees' reaction is very important because if the trainees react negative to a training program, they are less likely to replicate the learning in their real life situations. The primary aim of training is to enhance the knowledge, skills and abilities of the trainees which they can use in improving their instructional competency.

In order to determine the training delivery and approach, training department requires information on the competency learning. The research conducted on the effectiveness of content, procedures of training, instructional methodologies and techniques, instructional design, and other related issues are very helpful in improving the overall training program in fulfilling the needs of the stakeholders involved. The tools used for this type of data collection may involve the following:

- **Questionnaires** – Questionnaires are very helpful tool in collecting qualitative and quantitative data and information about trainees' opinion on the training program. These should have the coverage of both the training

content and quality of delivery. The reactions to training content must include the questions which help in assessing the extent to which the content of training will help the trainees to improve their job related performance and tasks and does this training lead to enhanced knowledge of the field. Similarly the section on assessing the quality of delivery must include questions to assess whether the content was presented in logical order covering both the depth and breadth of the content, using the appropriate methods of training the learners according to their age level.

The data collected through the questionnaire will help the training department to revise and supplement the training content and to improve the mode of delivery of the content in a best possible way.

- **Knowledge Review** – knowledge review is the form of pre and post-test conducted at the start and end of each training program. This will include short answers and multiple choice questions for assessing what has been learned by the participants' of the training program. The test items should be developed keeping in view the objectives of the training. The same test is administered at the end of the program to analyze the impact of the training with respect to content knowledge of the trainees and the extent of transfer of knowledge to the trainees. The results of knowledge review will be helpful for the training department to improve the content of the training program.

- **Observation** – another tool for assessing the effectiveness of a training program is observation which provides valuable information regarding

teacher's reactions to the training. The observer from the training department should observe trainee interaction, interest level during the sessions, level of engagement with training instructors and reaction to the presentation of course content. The observation should be purely informal in case if the general information about the training structure is required or highly structured if certain key points are targeted to be monitored or observed. (Carr, 2002).

The theoretical basis of the study is built on Wendy's model of evaluation and questionnaire is used for the collection of data which is described as one of the tools of data collection for the evaluation of the training program.

2.7 Review of Relevant Researches of Evaluation of Training

The literature on the professional development includes many studies which are specifically carried out on analyzing the criteria of the effective professional development programmes.

2.7.1 Summary of Selected Studies

Levinson-Rose and Menges (1981) reported on synthesis of some studies of interventions to improve higher education teaching. These studies were clustered on the basis of the kind of interventions they described , using following 05 categories: 1) grants for faculty project; 2) Seminars and Workshops; 3) feedback from students ratings; 04) practice with feedback and 5) concept based trainings on the basis of video-tapes illustrating educationally relevant concepts. The results indicated positive effects for 78% interventions in terms of participants' learning.

Steinert et. al. (2004) conducted a study and concluded that the literature on medical education suggested high satisfaction of teachers with professional

development initiatives and positive changes in teacher's attitudes, knowledge, skills and behavior following participation in an instructional development activity. The researcher searched similar studies conducted on the subject of professional development of teachers at higher education level. The literature located some studies that examined the impact of training at higher education on teachers learning (i.e. on teachers' attitudes, conceptions, knowledge and/or skills).

2.7.2 Impact of Professional Development Programs on Teachers Attitude

Many researchers focused on examining the impact of professional development on teachers' attitudes. Some quantitative studies investigated the effect on teachers' attitudes. The analysis of the data including three interview questions revealed that there was a positive difference in the confidence level of the teachers and teachers were able to self-reflect when assessed at the end of the program. 21 teachers were interviewed in Howlan and Wedman, (2004) study. The authors concluded that teacher's realized the importance of the technology use in the classroom. Pololi et. al. (2001) used a survey (n=58) as well as focus group (n=7) to analyze teachers perceptions of the role of teachers perspective in changing their attitudes. Attitudinal change was reported in terms of realizing the importance of student centered learning approach.

A quantitative survey data in the study by Filer et. al. revealed that 33% of 60 respondents felt more committed to institutional excellence at the end of professional development. 60% of 53 respondents felt more sensitive to students' non-academic needs; 38% reported an increased understanding of student's academic needs.

In a study by Kahn and Pred, 2002, a quantitative survey was emailed to the participants four months after the completion of the training. The results revealed that teachers were curious to learn more in the area of teaching development.

2.7.3 Impact of Professional Development Programs on Teachers Knowledge

Some of the studies examined the impact of professional development programs on the teachers' knowledge. Out of these the studies conducted by Quirk, Dewitt, Lasser, 1998 investigated quantitatively, the impact of instructional development on teachers knowledge. Nasmith et.al. (1995) administered knowledge test as well as conducted interview survey and delayed posttest improvement in knowledge was observed. The study by Quirk et. al. (1998) used a pretest/posttest/delayed posttest. A self-assessment questionnaire revealed significantly positive changes in familiarity with 9 of 11 concepts from pre-test to post test.

Some qualitative studies were conducted to analyze the impact of professional development on the knowledge level of the participants'. The results of the study conducted by Stepp-Greany, (2004) revealed that the participant teachers' gained insight about the importance of rubrics, forms and answer keys, learned the importance of using ancillary instructional material and increased their understanding of the collaborative process of teaching. In the study by Addison and VanDeWaghe (1999) participants answers to open ended survey questions revealed an increased understanding of assessment principles and psychologically understanding adult learners.

2.7.4 Impact of Professional Development Programs on Teachers Skills Enhancement

Some of the research studies revealed the impact of professional development on teachers' skills enhancement. In the study conducted by Dixon and Scott, 2003, teachers judged that their participation in professional development increased their skills regarding the creation of optimal and comfortable learning environments, time management, and enhancing students' motivation and instruction. Rakes (1982) used the test with 16 items to investigate the impact of professional development programs on the teaching strategies of seven teachers. The research revealed statistically significant effects.

The study by Harnish and Wild (1993) included four cases and in which two teachers reported gains in technical skills. The study by Slavit et.al., (2003) was case based. The participants' revealed that they were able to provide resources without overwhelming students. The study conducted by Stepp-Greany (2004) found that the participants' of the training program gained skills in classroom organization, problem solving, decision making, and reflecting. Moreover they learned teaching strategies, including strategies to squeeze instruction appropriately.

Brauchle and Jerich (1998) concluded that their participation in professional development program helped teachers in enhancing their teaching ability, classroom presentation skills and skills to improve students' evaluation. An analysis of 23 interviews in the study conducted by Postareff et.al. (2007) revealed that teachers developed reflective skills during training programs. Studies related to the quality of the professional development programs focused on the features of effective programs. A study conducted by Baker and Smith (2006) identified the following

features of an effective professional development programme helpful in sustaining change in teachers:

- An emphasis on providing realistic, concrete and challenging goals;
- Conceptual and technical aspects of instruction are taught through activities;
- Colleagues provide feedback on their laboratory teaching performance;
- Teachers are provided with frequent opportunities to witness the effects of the techniques they learnt through the training on students' learning.

There are several in-service training models that have been used by the private sector in Pakistan and have proven their effectiveness in bringing teaching quality. (Jaffer, 1998). A quality professional development program is provided by the Aga Khan University Institute for Educational Development which involves a close link between teaching, training and research and these programs are offered by Professional Development Centers. Another professional development program offered by Aga Khan Education Service combined routine classroom observations with the daily reviews and it helped a lot in improving the teaching competencies of teachers. Bude, 1992; Bude and Chowdhri, 1989; Chowdhri and Abbas, 1987 as cited in Shafqat, 2007).

2.7.5 Academic Quality of the Professional Development Programs

The quality of a professional development program is judged by a number of parameters which are focused on the promotion of effectiveness in teaching. The researches carried out in this area have highlighted some standard goals to be achieved as a result of any professional development program which may include several indicators:

- Growth in pedagogical content knowledge
- Enhancement in the skills required for teaching
- Improvement in the classroom related judgment
- Sense of contribution towards professional community
- Understanding his/her role in a greater perspective
- Understanding the leadership phenomenon and making shared decision making (Leithwood, 2003).

In service professional development opportunities help the teachers to bridge their deficiencies and enrich their teaching experience using new insight (Mtetwa and Thompson, 2000), update their skills and supplement their actual performance through improved attitudes, beliefs and perceptions transformed as a result of their training (Guskey, 2002). The effective professional development opportunities provide teachers will a "toolbox" facilitating them in the selection of the content, instructional strategies, and inter/intra-personal communications skills. It can be confidently claimed that professional development program is a key to an institutions' performance and students' outcomes (Guskey, 2003; Nir, 2008).

Institution based instructional program promotes institution's organizational learning. As teachers interact and learn from one another's learning experiences, this will help them to come out of their own individual boxes and explore new horizons resulting in their professional growth, their focus is also then shifted from individual classrooms to a collective teaching community. This will lead to the organizational learning and a more positive change for the benefits of the students at large. (Collinson and Cook, 2004, p. 330). This sharing of knowledge, skills and insights

through collaborative exchange of ideas will ultimately lead towards the organizational learning in an institution setting.

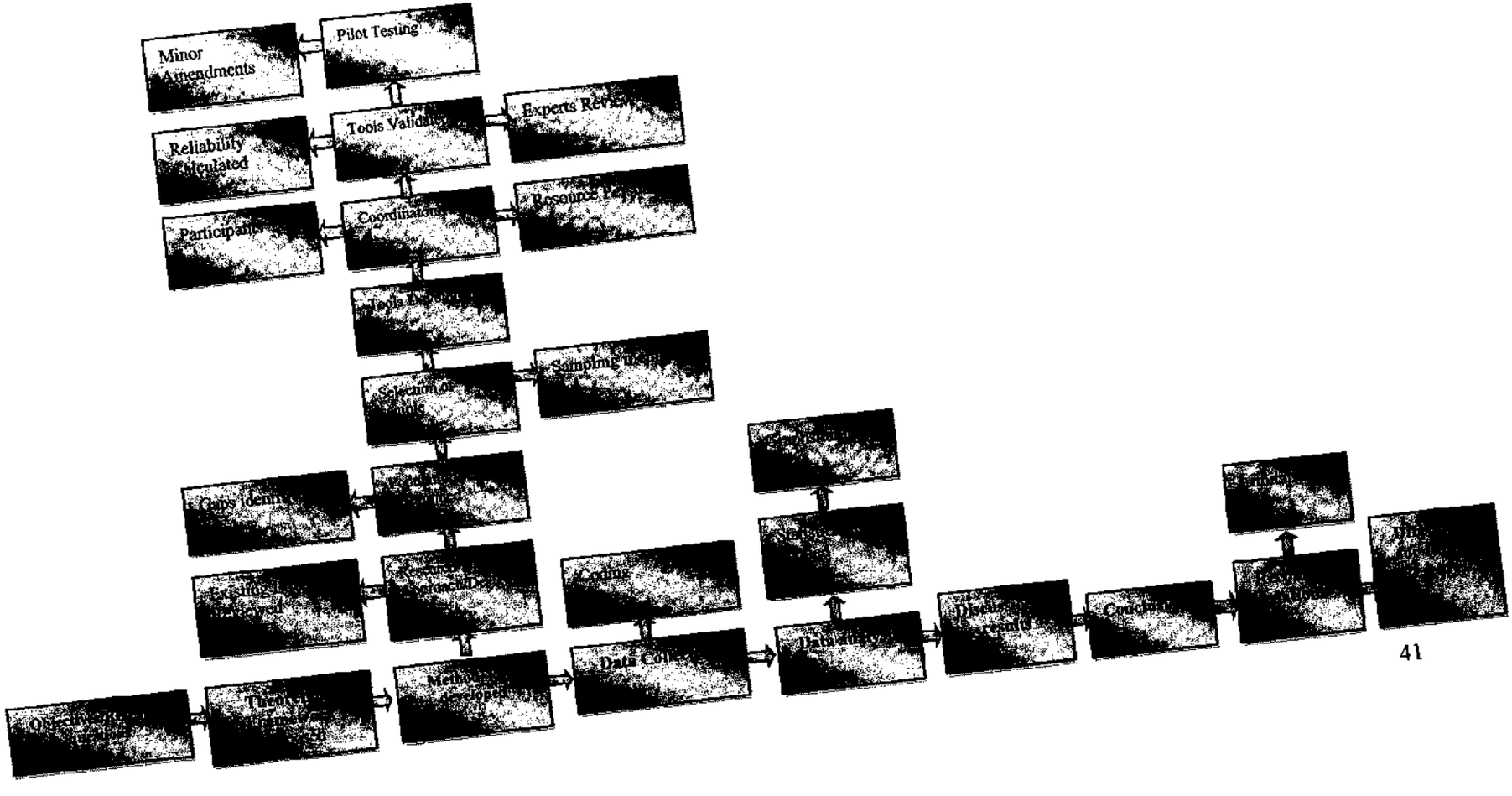
Grosso de Leon, 2001; Reynolds, 1992 were of the view that any program of professional development may be judged for effectiveness if it is imparting the following skills, knowledge, disposition and values:

1. General pedagogical knowledge which will include knowledge about instructional strategies and learning environment; knowledge of learners, types of learners and learning styles and basics of classroom management;
2. Subject-matter knowledge will include knowledge of content which the teacher is going to teach from a particular discipline.
3. Pedagogical content-knowledge is basically a conceptual map of how to teach a subject; knowledge of instructional strategies; knowledge of curriculum and curricular materials; knowledge of students' understanding
4. Personal knowledge of students which will include their context and to find out more about students, their institutions' and their families.
5. Knowledge of tools, techniques and strategies to create and maintain conducive learning environment.
6. Understanding the diverse background of students with whom the teacher is going to work with (Alidou, 2000; Gay and Howard, 2000; Weisman, 2001).
7. Knowledge and attitudes required for the political and social justice, as teachers can assume role of social change agents' Norberg (2000), states that this critical awareness aspect should be integrated in all types of teachers training programs irrespective of countries and contexts.
8. In-depth Knowledge and hands on skills to use technology for enriching curriculum.

This chapter presented review of literature starting from the meaning of in-service training program, its purpose, and scope; need and importance of teachers training. Models used in the training of teachers all over the world have been discussed and specifically HEC model for the training of teachers is discussed in detail. The establishment of NAHE and its emerging role has been explained. In connection to the research focus, the importance of training program evaluation and models for evaluation have been presented. The research has been framed theoretically around the proposed framework for training evaluation presented by Wendy F. Carr. The review also included many related and recent researches in the field and findings and conclusions of the researches have been presented to give readers an overview of what has been explored in this area is previous researches.

As the research was focused on the evaluation of one month in-service faculty training program conducted by HEC, the researcher has tried to explain different perspectives of the teachers training program evaluation in different contexts. The next chapter will discuss the methodology followed for the current research.

Figure 3.1: Conceptual Framework of the study



CHAPTER THREE

RESEARCH METHODOLOGY

This chapter addresses the major procedural dimensions of the study or the methods followed in conducting the research. It includes research design focusing on population of the study, sample selected, sampling technique, tools of the research, details about the questionnaires, the procedure for conducting the research, the data analysis techniques etc.

3.1 Research Approach and Design

The study aimed at exploring the opinions of participants of Professional Competency Enhancement Program for Teachers (PCEPT) about the academic quality of the program and the problems faced by the participants during PCEPT courses, opinions of resource persons and coordinators were also taken. Descriptive research design was used and cross sectional survey was conducted to gather to opinions of the respondents. A survey is used to collect original data for describing a population too large to observe directly. (Mouton 1996; 232). In this study the information was collected through a self-administered questionnaire distributed via snail mail and email to the respondents of the study. The research approach was quantitative in nature.

A cross sectional survey was selected as it provides accurate data regarding behavior, abilities, beliefs and knowledge of a particular individual, situation or group. (Burns and Grove, 1993; 29). This design was chosen to meet the objectives of

the study i.e. exploring the knowledge and views of the participants of PCEPT Courses.

3.2 Population of the Study

The population of the study was heterogeneous in nature and consisted of the following:

i. All the trained faculty members of 51 universities in which NAHE project extended support for conducting the PCEPT Courses. So categorically, 1577 faculty members trained through 51 PCEPT Courses were included;

ii. All the 51 University Coordinators of the courses and

iii. All the 340 Resource Persons engaged in these training programs constituted the population of the study.

The population catered to a wide range of disciplines / subject areas like Social Sciences, Pure Sciences, Humanities, Management Sciences, and languages, Medical Sciences etc. There was proportionate distribution of population with respect to rural areas representation. The population was scattered in four provinces of Pakistan and the state of AJ&K with a proportionate distribution of rural areas as well because of some universities i.e. Lasbela University of Water and Marine Sciences, Uthal and Kohat University of Science and Technology, Kohat, University of Malakand,Chakdara-Dir, etc.

Table 3.1: Province-wise Distribution of Population (PCEPT University Coordinators, Trained Faculty members/Participants and Resource Persons)

S. No	Province	Trained Faculty Members/Participants	University Coordinators	Resource Persons	Participants Percentage Representation out of the total
1.	Federal	227	08	56	14%
2.	Punjab	534	17	102	34%
3.	Sindh	292	09	63	19%
4.	KPK	352	11	77	22%
5.	Balochistan	141	05	35	08%
6.	AJ&K	31	01	07	02%
	Total	**1577**	**51**	**340**	**100**

3.3 Selection of Sample

Sample of the study consisted of 920 individuals with the break-up of 790 trained faculty members, 100 Resource Persons and 30 University Coordinators of PCEPT courses. Three types of samples were categorized and their selection criterion is given below:

Trained Faculty members: out of the total 1577 faculty members trained through PCEPT courses, 790 were selected using the systematic stratified sampling technique. A proportionate representation of all the five strata's (provinces) was selected using systematic sampling method.

PCEPT University Coordinators: Out of the total 51 university coordinators included in the population of the study, 30 were targeted to be selected. Using the random sampling technique the sample was drawn from the five strata in which all the individuals were given independent and equal chance to be selected.

Resource Persons: keeping in view the percentage representation share of each of the province against the total population figures, the corresponding number of Resource Persons from each province was selected using Random Sampling Technique. The formula of sample selection led to the sampling of 100 resource persons in total for the purpose of data collection.

Table 3.2: Summary of the Sample Selected in Three Different Categories

S. No	Category	Sample Selected
1.	Trained Faculty members	790
2.	University Coordinators	30
3.	Resource Persons	100
	Total	**920**

Table 3.3: Province-wise Distribution of Sample

S. No	Province	Trained Faculty members	University Coordinators	Resource Persons	Total
1.	Federal Area	114	04	14	132
2.	Punjab	267	10	35	312
3.	Sindh	146	06	19	171
4.	Khyber PakhtunKhaw	176	06	22	204
5.	Balochistan	71	03	08	82
6.	AJ&K	16	01	02	19
	Total	**790**	**30**	**100**	**920**

3.4 Instruments of Research

This study aimed to focus on the collection of experiences of the trained faculty members (participants), Resource Persons and University Coordinators of the PCEPT courses conducted in the public sector universities of Pakistan. Instruments used for the data collection included the following:

3.4.1 Questionnaire and the Structure of the Questionnaire

Questionnaire was used as an instrument for data collection because of the fact that it ensures high response rate, greater possibility for anonymity, and more population access and in return wider coverage. Questionnaire consisted of more closed ended and few open ended questions as these provide more diverse details. Open ended questions required subjects to provide their answers but in closed ended questions the options were provided by the researcher. Guidelines for filling the questionnaire were also given. In general, three different forms of questionnaires were used for the three categories of sample; which are briefly explained below:

3.4.1.1 Questionnaire for faculty members/participants of PCEPT courses

Onc questionnaire was developed for the faculty members who were the participants of PCEPT courses. The first part of this questionnaire was based on assessing the academic quality of the program. 45 statements were developed on a bipolar scaling method i.e. the five point Likert scale with the categories of 'very high extent'; 'high extent'; 'uncertain'; 'low extent'; and 'very low extent'. These were developed to assess that to what extent participants learned the concepts given in the

training modules. Keeping in view the suggestions of Babbie (2008) the frequencies of 'Very Higher Extent' and 'High Extent' were added up to arrive at a conclusion. Similarly Very Low Extent and Low Extent were combined to avoid thin distribution of data. The distribution of questions according to modules is given below:

Table 3.4: Distribution of Questions corresponding to each Module

S. No	Module Name	No. of Questions asked
1	Teaching as a Profession	05
2	Academic Panning and Management	06
3	Curriculum Development, Assessment and Evaluation	07
4	Learner's Psychology	05
5	Andragogical Skills	06
6	Communication Skills	06
7	Research Methods and Skills	10
	Total	45

Six questions were based on taking the opinion of the participants in the areas like quality of resource persons, modules to be included/excluded, general quality of the course assessed over some given response alternatives, changes they experienced before and after taking the course and recommendations for the future training programs.

During the implementation of the training program, it is obvious that there would be certain problems associated with the program organization. The questionnaire can also get the opinions' of the respondents' regarding the problem they faced during the training program. The second part of the questionnaire was focused on assessing the problems faced by the participating faculty members during attending the course. It comprised 13 statements developed on Likert Scale based on assumed problems and 02 open ended questions.

3.4.1.2 Questionnaire for Resource Persons' of PCEPT courses

This questionnaire was developed for having the responses of the resource person with the following categorization:

- Some statements were developed to assess the usability of the modules included in the program, from the perspective of resource persons.
- Some open ended questions were included regarding general recommendations and suggestions for bringing improvement in the quality of the PCEPT courses.

In total there were 20 questions out of which 14 were close ended and 06 were open ended questions.

3.4.1.3 Questionnaire for University Coordinators of the PCEPT Courses

The questionnaire consisted of statements developed on Likert Scale to assess the administrative aspects of the course and the problems faced by the University Coordinators of the program. In this tool, most of the questions were close ended and only two questions were open ended for having general opinions and suggestions of the coordinators' for the subsequent improvement of the training program.

3.4.2 Process of Development of Questionnaires

The questionnaire was researcher made in the first place and then certain validation measures were taken to ensure the quality of the statements.

3.4.2.1 Validation of the Questionnaires

For ensuring the content validity of the questions, five professionals in the field of teacher education assessed the items. (Names are available at Annexure "F"). For the purpose of validation the experts were chosen through purposive sampling technique. These were selected on the following criteria:

- Heads/Directors of Institute of Education and Research (IERs)
- Senior faculty at Teacher Education Institutes

In the light of experts' suggestions, minor revisions were made in the questionnaire. The final questionnaire was again shown to those experts and they confirmed that the questions were relevant and correlated with the standards of teachers training program researches.

3.4.2.2 Pilot Test of the Questionnaires

In order to test the effectiveness of the questions asked; time span required for the response of the items; clarity of the statements; clearness of the instructions given at the top of each portion, and to discard the non-useful items, the researcher piloted all the three questionnaires on a mini-sample consisting of 10 participants/faculty members; 02 university Coordinators and 03 Resource Persons. For having the objective analysis, the researcher asked the respondents to interpret the questions and

reproduce these in their own words to show their understanding of the particular statement. The researcher instructed the respondents to give their feedback openly in order to improve the statements of the questionnaire and to make it more clear and understandable. During that process, if any statement was misinterpreted by the respondent, it was rephrased and made clearer by the researcher.

Respondents' suggestions were duly taken into consideration and minor amendments were incorporated in the questionnaire according to the feedback given by participants/faculty members, University Coordinators and Resource Persons.

The questionnaires are available at Annexure C, D and E of the thesis report.

3.4.2.3 Reliability of the Questionnaires

The Cronbach Alpha for five pint Likert scale was estimated for all the three questionnaires. Cohen and Morison (p.7) maintained that a questionnaire is considered highly reliable if Cronbach Alpha range is 0.8 - 0.9.The reliability coefficients for all the three questionnaires used in the study are given below:

Table 3.5: Reliability of the questionnaire

S. No	Questionnaire	Reliability
1	Questionnaire for participants	0.859
2	Questionnaire for Resource Persons	0.812
3	Questionnaire for Coordinators	0.80

3.5 Study of Relevant Documents

For the purpose of data collection, the study of relevant documents was also used as a tool. These included various types of documents and reports compiled by National Academy of Higher Education and Higher Education Commission. Complete database of the resource persons, participants' and university coordinators of the program, maintained by NAHE's office of the participants was used to collect data from the faculty members, course coordinators and resource persons. The database was scanned to retrieve the email addresses, contact numbers and postal addresses of the respondents for the purpose of data collection. In addition to that, HEC's Yearly Achievement Report, PC-I of NAHE Project, and Medium Term Development Framework (MTDF-2010-15) and other related documents were studied and cited in this research.

3.6 Ethical Considerations

In the covering letter of the questionnaires, the subjects were informed about the purposes of the study, and the procedures that would be used to collect the data. They were assured that no potential risks were involved being the respondents for this study. Confidentiality and anonymity was maintained throughout the study. Anonymity was maintained as the respondents were given an option to show their identity by writing names; it was not mandatory. Confidentiality was maintained as the identities were not revealed while reporting the results. Questionnaires were numbered for data entry and no identifying information was used at any stage of reporting results.

3.7 Administration of Tool

The questionnaires were circulated to the participants of the PCEPT training 'program, Resource Persons and University Coordinators of the program via email. Delay in responsiveness of the sampled group was tackled through sending electronic mail and telephonic reminders. Moreover initially a covering letter was sent to all the sample participants realizing the importance of this research as national cause and the importance of their feedback for improvising the system of faculty training at national level in Pakistan. In some cases the researcher visited the universities personally and collected the questionnaires by hand from the faculty members.

3.8 Data Collection

The researcher sent the questionnaires to the sample participants i.e. 790 faculty members; 30 coordinators and 100 resource persons. The response rate was as follows:

Table 3.6: Response rate on the survey questionnaire

S. No	Respondents Category	Questionnaires sent	Questionnaire received	Response rate
1	Faculty members	790	694	88%
2	PCEPT Coordinators	30	30	100%
3	Resource Persons	100	78	78%

3.9 Coding Procedure

All the questionnaires received from the respondents were assigned serial numbers and data were entered accordingly. A scheme was developed for coding the personal data of respondents i.e. Gender, Designation, Department, University, Years of Experience etc were converted to numerical from.

3.10 Data Analysis

After the collection of data, the organization of data in the form of data cleaning, feeding, and coding was done. Data were analyzed using descriptive statistics. Percentages, Chi Square and mean percentages were calculated using Statistical Package for Social Sciences (SPSS). Data were presented in the form of tables and graphs and was then interpreted. The interpretation of the Likert Scale was combined in three categories treating/combining the Strongly Agree and Agree option as one, Strongly Disagree and Disagree option, and the third option of neutral/undecided. This was done to avoid thin distribution and analysis of the data. This was done keeping in view the suggestions of Babbie (2008).

The analysis of open ended questions was done through quantitative content analysis technique in which the emerging concepts and characteristics were quantified in a systematic way. After the analysis of collected data, the research report was written keeping in view the technical parameters. The analysis of the data and the results of the study have been presented in an understandable and simplified way. Afterwards, the researcher concluded the report on the basis of major findings and finally recommendations were made.

CHAPTER FOUR

ANALYSIS AND INTERPRETATION OF DATA

This chapter presents analysis and interpretation of the data gathered from the faculty members who were the participants of the PCEPT courses, Course Coordinators of the programs and resource persons engaged in the courses. The basic objective of the study was to assess the academic quality of the course content, the implementation status of the PCEPT courses conducted in the public sector universities all over the Pakistan and to analyze the problems faced by the faculty members and course coordinators during the implementation of these courses; to have a disciplines based analysis of the faculty members trained through PCEPT program. The results of the study have been presented in the form of tables and graphical representation. The sequence of the data presentation and analysis is as:

1. Analysis and Interpretation of Data collected through questionnaire developed for the trained faculty members.
2. Analysis and Interpretation of Data collected through questionnaire developed for the PCEPT University Coordinators.
3. Analysis and Interpretation of Data collected through questionnaire developed for the Resource Persons.
4. Percentage analysis of the faculty members trained in different academic disciplines

4.1 Analysis and Interpretation of data collected through questionnaire developed for trained faculty members/participants

First Part of the questionnaire for PCEPT Course participants was focused on analyzing the contents of the PCEPT courses. The statements were developed according to the objectives of modules. 07-12 statements corresponding to each module were included to have an in-depth analysis of the extent to which the modules achieved the pre-specified objectives.

Second portion of the questionnaire was developed to have an analysis of the problems faced by the participants of the PCEPT Training program and some questions were generally included to assess the quality of Resource Persons engaged in the programs, and general open ended questions for getting opinions/suggestions.

For the analysis of data a statistical technique i.e. Chi-square was used and Mean Percentages were also calculated for some responses.

The detailed results of the survey are presented in tabular and graphical format below:

Table 4.1: Understanding the role of the teaching profession

Options	Observed N	Percent	Expected N	Statistics
Low Extent	217	56	231.3	Chi-Square:
Uncertain	88	13	231.3	197.156
High Extent	389	31	231.3	df: 02
Total	694	100		Table Value:9.4888

This table shows that 56% respondents were of the view that PCEPT programs contributed to high extent in increasing their understanding of the role of teaching profession in the system of higher education. However 31% respondents were of the

view that this course contributed to low extent towards enhancing their understanding of the role of their profession in the system of higher education.

The statistics show that the value of chi square $x^2 = 197.156 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course respondents gained understanding of the role of teaching profession in the system of higher education.

Table 4.2: Professional ethics and moral values

Options	Observed N	Percent	Expected N	Statistics
Low Extent	172	24.7	231.3	Chi-Square:
Uncertain	73	10.5	231.3	328.395
High Extent	449	64.7	231.3	df: 02
Total	694	100		Table Value:9.4888

This table shows that 64.7% respondents were agreed to a high extent that PCEPT Program helped them in learning how to apply professional ethics and moral values in their teaching. On the other hand 24.7% respondents were of the view that this course contributed to low extent towards learning professional and moral values required.

The statistical analysis of the results show that the value of chi square $x^2 = 328.395 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course participants learned professional ethics and moral values required for the teaching profession at higher education level.

Table: 4.3 Learned the intellectual roles and responsibilities

Options	Observed N	Percent	Expected N	Statistics
Low Extent	110	15.8	231.3	Chi-Square:
Uncertain	38	5.47	231.3	653.233
High Extent	546	78.67	231.3	df: 02
Total	694	100		Table Value:9.4888

This table shows that 78.67% respondents agreed to a high extent that they learned the intellectual roles and responsibilities of the university teachers through the PCEPT Program. However 15.8% respondents were of the view that this course contributed to low extent towards learning roles and responsibilities of university teachers.

From the statistical analysis of the results it is evident that the value of chi square $\chi^2 = 653.233 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course participants learned the intellectual roles and responsibilities of the university teachers.

Table: 4.4 Teachers' roles as an agent of social change

Options	Observed N	Percent	Expected N	Statistics
Low Extent	124	17.86	231.3	Chi-Square:
Uncertain	97	13.97	231.3	380.268
High Extent	473	68.15	231.3	df: 02
Total	694	100		Table Value:9.4888

This table shows that 68.15% respondents agreed to high extent that through this course they learned their role as agents of social change in the society. However

17.86% respondents were of the view that these courses contributed to low extent towards helping them realize their roles as agents of social change.

From the results it is evident that the value of chi square χ^2 = 380.268 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course participants learned and realized their role as agents of social change in the Pakistani society.

Table: 4.5 Developing professional networking in conferences, seminars and workshops

Options	Observed N	Percent	Expected N	Statistics
Low Extent	254	36.59	231.3	Chi-Square:
Uncertain	55	7.92	231.3	238.706
High Extent	385	55.63	231.3	df: 02
Total	694	100		Table Value:9.4888

The above table shows that 55.63% respondents were of the view to high extent that through this course they learned to develop professional networking for knowledge sharing in conferences, seminars and workshops. However 36.59% respondents were of the view that this course contributed to low extent in developing professional networking skills.

The statistical analysis shows that the value of chi square χ^2 = 238.706 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course participants learned networking and collaboration for the purpose of knowledge sharing during the conferences and seminars.

Table: 4.6 Learned to apply Academic Planning and Management strategies

Options	Observed N	Percent	Expected N	Statistics
Low Extent	128	18.44	231.3	Chi-Square:
Uncertain	59	8.50	231.3	503.035
High Extent	507	73.05	231.3	df: 02
Total	694	100		Table Value:9.4888

This table shows that 73.05% respondents agreed to high extent that PCEPT Program helped them in learning to apply academic planning and management strategies to their work. 18.44% respondents were of the view that this course contributed to a low extent in learning academic planning and management strategies.

Statistics show that the value of chi square $x^2 = 503.035 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course participants learned academic planning and management strategies required for enhancing their professional work through the PCEPT course.

Table: 4.7 Learned strategies of short term planning of time

Options	Observed N	Percent	Expected N	Statistics
Low Extent	198	28.53	231.3	Chi-Square:
Uncertain	46	6.62	231.3	359.977
High Extent	450	64.84	231.3	df: 02
Total	694	100		Table Value:9.4888

This table shows that 64.84% respondents agreed to high extent that PCEPT Program helped them in understanding how to make planning for the shorter duration of time like daily planning of their daily tasks. On the other hand 28.53% respondents

were of the view that this course was not much helpful in learning how to make daily plans for academic tasks i.e. lesson plans.

As per the statistical results it is evident that the value of chi square χ^2 = 359.977 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the PCEPT course remained helpful for the respondents' for learning to apply strategies of short term/daily planning of time.

Table: 4.8 Learned strategies of long term planning

Options	Observed N	Percent	Expected N	Statistics
Low Extent	166	23.91	231.3	Chi-Square:
Uncertain	29	4.17	231.3	505.127
High Extent	499	71.90	231.3	df: 02
Total	694	100		Table Value:9.4888

The above table shows that 71.90% respondents agreed to high extent that PCEPT Program helped them in learning how to effectively manage time keeping in view the semester planning. On the other hand 23.91% respondents were of the view that this course was not much helpful in enhancing the time- management skills of the respondents.

From the statistical calculations, it is evident that the value of chi square χ^2 = 505.127 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the PCEPT course remained helpful for the respondents' for learning to apply strategies of long term/semester based planning of time.

Table: 4.9 Modern classroom management techniques

Options	Observed N	Percent	Expected N	Statistics
Low Extent	37	4.3	231.3	Chi-Square: 1110.91 df: 02 Table Value:9.4888
Uncertain	12	1.73	231.3	
High Extent	645	92.93	231.3	
Total	694	100		

The above table shows that 92.93% respondents agreed to high extent that PCEPT Program helped them in learning classroom management techniques for handling adult learners. On the other hand only 4.3% respondents were of the view that this course didn't provide effective adult learning classroom handling techniques.

It is evident from the statistical analysis that the value of chi square χ^2 = 1110.91 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course equipped respondents' with the class room management techniques for handling adult learners.

Table: 4.10 Positive attitudes towards inclusive classroom environments

Options	Observed N	Percent	Expected N	Statistics
Low Extent	254	36.59	231.3	Chi-Square: 39.859 df: 02 Table Value:9.4888
Uncertain	155	22.33	231.3	
High Extent	285	41.06	231.3	
Total	694	100		

The above table shows that 41.06% respondents agreed to high extent that PCEPT Program helped them in learning to develop positive attitudes towards inclusive classroom environments for students with varying backgrounds. On the other hand 36.59% respondents were of the view that this course didn't help in developing of such type of attitudes. Another notable percentage is of the group who

remained un-certain in answering this question, it was around 22.33% of the total respondents. The reason may be they have not understood the question properly, or maybe they would have been considering the inclusive classrooms as some type of classrooms which they have never encountered during their teaching experience.

The results show that the value of chi square $X^2 = 39.859 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course equipped participants' with the class room management techniques for handling adult learners.

Table: 4.11 Planning and management of a research project

Options	Observed N	Percent	Expected N	Statistics
Low Extent	197	28.38	231.3	Chi-Square: 686.035 df: 02 Table Value:9.4888
Uncertain	52	7.44	231.3	
High Extent	445	64.12	231.3	
Total	694	100		

The above table shows that 64.12% respondents agreed to high extent that PCEPT Program helped them in learning the strategies of planning and management of a research project. On the other hand 28.38% respondents were of the view that this course didn't impart knowledge related to the planning and management of the research project.

The statistical results show that the value of chi square $X^2 = 686.035 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course equipped respondents' with the strategies required for handling the research project.

Table: 4.12 Learned to assess the strengths and weaknesses of Syllabi

Options	Observed N	Percent	Expected N	Statistics
Low Extent	143	20.60	231.3	Chi-Square: 799.153 df: 02 Table Value:9.4888
Uncertain	66	9.51	231.3	
High Extent	484	69.74	231.3	
Total	694	100		

The above table shows that 69.74% respondents agreed to a high extent that PCEPT Program helped them in learning the model of curriculum and assess the strengths and weakness of their own curriculum. On the other hand 20.60% respondents were of the view that they leaned the concept to a low extent.

From the statistical analysis of the results it is evident that the value of chi square χ^2 = 799.153 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course equipped respondents' with the skills to assess strengths and weaknesses of their own curriculum through applying curriculum models.

Table: 4.13 Learned to select content in accordance with the expected learning outcomes

Options	Observed N	Percent	Expected N	Statistics
Low Extent	346	49.85	231.3	Chi-Square: 106.870 df: 02 Table Value:9.4888
Uncertain	124	17.86	231.3	
High Extent	224	32.27	231.3	
Total	694	100		

The above table shows that 32.27% respondents agreed to a high extent that the content of the PCEPT course helped them in giving orientation about how to

select the content in accordance with the expected learning outcomes. On the other hand 49.85% respondents were of the view that they didn't learn the said concept.

It is obvious from the statistical analysis that the value of chi square χ^2 = 106.870 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that an association exists between the PCEPT course and the respondents' understanding about selection of content in accordance with expected learning outcomes.

Table: 4.14 Learned to identify instructional strategies relating to learning out comes

Options	Observed N	Percent	Expected N	Statistics
Low Extent	67	9.65	231.3	Chi-Square: 255.617 df: 02 Table Value:9.4888
Uncertain	217	31.26	231.3	
High Extent	410	59.07	231.3	
Total	694	100		

The above table shows that 59.07% respondents agreed to a high extent that PCEPT Program helped them in learning to identify the suitable instructional strategies in accordance with the learning outcomes. On the other hand 9.65% respondents were of the view that they didn't learn to identify the instructional strategies relating to the specified learning outcomes.

The statistics show that the value of chi square χ^2 = 255.617 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course equipped respondents' with the skills to select the relevant instructional strategies keeping in view the learning outcomes.

Table: 4.15 Learned the importance of variety of tests to assess student's academic performance

Options	Observed N	Percent	Expected N	Statistics
Low Extent	69	9.94	231.3	Chi-Square: 880.516 df: 02 Table Value:9.4888
Uncertain	26	3.74	231.3	
High Extent	599	86.31	231.3	
Total	694	100		

The above table shows that 86.31% respondents agreed to a high extent that PCEPT Program helped them in learning the importance of variety of tests for assessing students' academic performance. On the other hand 9.94% respondents were of the course contributed to a low extent in learning in concept.

It becomes obvious from the results that the value of chi square X^2 = 880.516 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course equipped respondents' with the realization of the importance of the variety of tests used for assessing the students learning.

Table: 4.16 Learned to represent the ability level of the students in numbers and letters

Options	Observed N	Percent	Expected N	Statistics
Low Extent	290	41.78	231.3	Chi-Square: 121.300 df: 02 Table Value:9.4888
Uncertain	95	13.68	231.3	
High Extent	309	44.52	231.3	
Total	694	100		

The above table shows that 44.52% respondents agreed to a high extent that PCEPT Program helped them in learning to represent the ability level of students in numbers and letters. On the other hand 41.78% respondents were of the view this

course didn't help in learning the concept of representing performance in numbers and letter grades.

The results make it evident that the value of chi square $x^2 = 121.300 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course equipped respondents' with the skills to represent students' performance in letter grades and numbers.

Table: 4.17 Learned to prepare students for different professions using the multiple intelligence theory

Options	Observed N	Percent	Expected N	Statistics
Low Extent	411	59.22	231.3	Chi-Square: 212.268 df: 02 Table Value:9.4888
Uncertain	123	17.72	231.3	
High Extent	160	23.05	231.3	
Total	694	100		

This table shows that 23.05% respondents agreed to a high extent that PCEPT Program helped them in exploring how to prepare their students for taking up their professional roles using the multiple intelligence theory. On the other hand 59.22% respondents were of the view that this course contributed to low extent towards learning the concept of multiple intelligence theory and linking it with guiding their students.

The results show that the value of chi square $x^2 = 212.268 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which means that an association exists between the content of the course and the concept of multiple intelligence theory.

Table: 4.18 Learned to explore ways for students to self-monitor their learning

Options	Observed N	Percent	Expected N	Statistics
Low Extent	227	31.70	231.3	Chi-Square:
Uncertain	60	8.64	231.3	260.372
High Extent	407	58.64	231.3	df: 02
Total	694	100		Table Value:9.4888

This table shows that 58.64% respondents agreed to a high extent that PCEPT Program helped them in learning to explore how students' can self-monitor their learning. On the other hand 31.70% respondents were of the view that this course contributed to low extent towards learning the said concept.

As per statistical calculation it is evident that the value of chi square X^2 = 260.372 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course participants learned the ways of how students be directed towards self-monitoring their learning.

Table: 4.19 Learned different techniques to raise the motivational level of the learners

Options	Observed N	Percent	Expected N	Statistics
Low Extent	90	12.96	231.3	
Uncertain	19	2.73	231.3	Chi-Square: 821.934
High Extent	585	84.29	231.3	df: 02
Total	694	100		Table Value:9.4888

This table shows that 84.29% respondents agreed to a high extent that PCEPT Program helped them in exploring different techniques for raising the motivational level of learners. On the other hand 12.96% respondents were of the view that this course contributed to low extent towards exploring different techniques of motivating the students.

The statistics show the value of chi square $X^2 = 821.934 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course respondents learned to explore techniques of raising the motivational level of the learners.

Table: 4.20 Learned to apply good teaching principles in their teaching

Options	Observed N	Percent	Expected N	Statistics
Low Extent	75	10.80	231.3	
Uncertain	14	2.01	231.3	Chi-Square: 913.403
High Extent	605	87.17	231.3	df: 02
Total	694	100		Table Value:9.4888

This table shows that 87.17% respondents agreed to a high extent that PCEPT Program helped them in learning to apply to apply good teaching principles in your

teaching. On the other hand 10.80% respondents were of the view that this course helped to a low extent in learning to apply good teaching practices in their teaching.

From the statistical analysis of the results it is evident that the value of chi square χ^2 = 913.403 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course participants learned to apply good teaching principles in their teaching.

Table: 4.21 Learned to identify emotional / behavioral difficulties hindering learning of students

Options	Observed N	Percent	Expected N	Statistics
Low Extent	154	22.19	231.3	Chi-Square: 500.112 df: 02 Table Value:9.4888
Uncertain	39	5.61	231.3	
High Extent	501	72.19	231.3	
Total	694	100		

This table shows that 72.19% respondents agreed to a high extent that PCEPT Program helped them in learning to identify those emotional and behavioral difficulties which hinder the learning process of the students. On the other hand 22.19% respondents were of the view that this course contributed to low extent towards learning the above mentioned skills.

It is obvious from the statistical analysis that the value of chi square χ^2 = 500.112 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course participants learned the skills of identifying emotional problems coming in the way of students learning.

Table: 4.22 Learned the techniques of guiding and counseling the adults

Options	Observed N	Percent	Expected N	Statistics
Low Extent	201	28.96	231.3	Chi-Square: 392.700 df: 02 Table Value:9.4888
Uncertain	35	5.04	231.3	
High Extent	458	65.99	231.3	
Total	694	100		

This table shows that 65.99% respondents agreed to a high extent that PCEPT Program helped them in learning the techniques of adult's guidance and counseling. On the other hand 28.96% respondents were of the view that this course contributed to low extent towards learning the counseling skills.

From the statistical analysis of the results it is evident that the value of chi square $\chi^2 = 392.700 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course participants learned the techniques underlying guiding and counseling the adult learners.

Table: 4.23 Learned the techniques of stress management

Options	Observed N	Percent	Expected N	Statistics
Low Extent	398	57.34	231.3	Chi-Square: 264.850 df: 02 Table Value:9.4888
Uncertain	49	7.06	231.3	
High Extent	247	35.59	231.3	
Total	694	100		

This table shows that 35.59% respondents agreed to a high extent that PCEPT Program helped them in learning the techniques of stress management. On the other hand 57.34% respondents were of the view that this course contributed to low extent towards learning stress management techniques.

The statistics make is evident that the value of chi square χ^2 = 264.850 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant and on the basis of this, we can conclude that PCEPT course had the relationship with the respondents' learning regarding the techniques of stress management.

Table: 4.24 Learned to differentiate between teachers and student centered teaching

Options	Observed N	Percent	Expected N	Statistics
Low Extent	298	42.93	231.3	Chi-Square: 269.934 df: 02 Table Value:9.4888
Uncertain	31	4.46	231.3	
High Extent	365	52.59	231.3	
Total	694	100		

This table shows that 52.59% respondents agreed to a high extent that PCEPT Program helped them in learning to differentiate between teachers centered and student centered teaching. On the other hand 42.93% respondents were of the view that this course contributed to low extent towards learning of this differentiation.

The calculated statistics show that the value of chi square χ^2 = 269.934 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course participants learned the differentiation between teacher centered and student centered teaching methodologies and the PCEPT course had influenced their concept building.

Table: 4.25 Learned to conceptualize learning theories and their impact on effective classroom teaching

Options	Observed N	Percent	Expected N	Statistics
Low Extent	358	51.58	231.3	Chi-Square: 105.496 df: 02 Table Value:9.4888
Uncertain	155	22.33	231.3	
High Extent	181	26.08	231.3	
Total	694	100		

This table shows that 26.08% respondents agreed to a high extent that PCEPT Program helped them in learning how to conceptualize different theories of learning and their impact on the effective classroom teaching. On the other hand, 51.58% respondents were of the view that this course contributed to low extent towards conceptualization of learning theories and their overall impact on teaching.

It becomes obvious from the statistical calculation that the value of chi square $\chi^2 = 105.496 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that an association existed between the participant's conceptualization of the learning theories and the content of the program.

Table: 4.26 Learned to apply the principles of learning in classroom Teaching

Options	Observed N	Percent	Expected N	Statistics
Low Extent	160	23.05	231.3	Chi-Square: 440.104 df: 02 Table Value:9.4888
Uncertain	50	7.20	231.3	
High Extent	484	69.74	231.3	
Total	694	100		

This table shows that 69.74% respondents agreed to a high extent that PCEPT Program helped them in grasping the concept of how apply to the psychological principles of learning in their teaching. On the other hand 23.05% respondents were

of the view that this course contributed to low extent towards learning of the said concept.

The results make it evident that the value of chi square $\chi^2 = 440.104 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course participants learned to apply principles and styles of learning in their teaching.

Table: 4.27 Learned the effective use of different teaching strategies

Options	Observed N	Percent	Expected N	Statistics
Low Extent	111	15.99	231.3	Chi-Square: 731.173 df: 02 Table Value:9.4888
Uncertain	20	2.88	231.3	
High Extent	563	81.12	231.3	
Total	694	100		

This table shows that 81.12% respondents agreed to a high extent that PCEPT Program helped them in exploring the effective use of different teaching strategies. On the other hand 15.99% respondents were of the view that this course contributed to low extent towards exploring multiple teaching strategies.

From the statistical analysis of the results it is evident that the value of chi square $\chi^2 = 731.173 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course participants learned to explore the effective use of different teaching strategies during their training experience.

Table: 4.28 Learned how students can use their prior knowledge in learning

Options	Observed N	Percent	Expected N	Statistics
Low Extent	437	62.96	231.3	Chi-Square: 277.231 df: 02 Table Value:9.4888
Uncertain	110	15.85	231.3	
High Extent	147	21.18	231.3	
Total	694	100		

This table shows that 21.18% respondents agreed to a high extent that PCEPT Program helped them in exploring how students can best utilize their prior knowledge and experience in learning the material. On the other hand 62.96% respondents were of the view that this course contributed to low extent towards in exploring how students can use their prior knowledge in learning the new material.

The value of chi square $\chi^2 = 277.231 > 9.4888$ at $\partial = 0.05$ and df = 2 according to the calculated statistics. Therefore the result was statistically significant which showed that a relationship existed between the learning of the strategies by the trainees regarding the use of previous learning of their students for new learning and the content of the PCEPT course.

Table: 4.29 Explored the strengths and weaknesses through microteaching session

Options	Observed N	Percent	Expected N	Statistics
Low Extent	18	2.59	231.3	Chi-Square: 1248.046 df: 02 Table Value:9.4888
Uncertain	6	0.8	231.3	
High Extent	670	96.54	231.3	
Total	694	100		

This table shows that 96.54% respondents agreed to a high extent that PCEPT Program helped them in exploring their strengths and weaknesses through micro-

teaching sessions. On the other hand only 2.59% respondents were of the view that this course contributed to low extent towards exploring their teaching skills.

Keeping in view the statistical results it is evident that the value of chi square χ^2 = 1248.046 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course participants learned their own strengths and weaknesses through micro-teaching sessions.

Table: 4.30 Learned to identify and handle barriers to effective communication

Options	Observed N	Percent	Expected N	Statistics
Low Extent	35	5.04	231.3	Chi-Square: 1160.320 df: 02 Table Value:9.4888
Uncertain	05	0.07	231.3	
High Extent	654	94.23	231.3	
Total	694	100		

This table shows that 94.23% respondents agreed to a high extent that PCEPT Program helped them in learning to identify/handle barriers to effective communication. On the other hand only 5.04% respondents were of the view that this course contributed to low extent towards learning about handling of barriers to effective communication.

The statistical analysis of the results shows that the value of chi square χ^2 = 1160.320 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course participants learned to identify and handle barriers to effective communication.

Table: 4.31 Learned the importance of personality in communication in an academic context

Options	Observed N	Percent	Expected N	Statistics
Low Extent	399	57.49	231.3	Chi-Square: 271.352 df: 02 Table Value:9.4888
Uncertain	46	6.62	231.3	
High Extent	249	35.87	231.3	
Total	694	100		

This table shows that 35.87% respondents agreed to a high extent that PCEPT Program helped them in learning the important role of personality the communication within an academic environment. On the other hand 57.49% respondents were of the view that this course contributed to low extent towards learning of the importance of personality in communication.

From the results it is evident that the value of chi square $\chi^2 = 271.352 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant. So we can conclude that there was an association/relationship between learning the concept of personality in communication and the contents of the PCEPT course attended by the responding participants.

Table: 4.32 Learned to compare their own communication styles with those of others

Options	Observed N	Percent	Expected N	Statistics
Low Extent	243	35.01	231.3	Chi-Square: 246.349 df: 02 Table Value:9.4888
Uncertain	57	8.21	231.3	
High Extent	394	56.77	231.3	
Total	694	100		

This table shows that 56.77% respondents agreed to a high extent that PCEPT Program helped them in learning to compare their communication skills with others.

On the other hand 35.01% respondents were of the view that this course contributed to low extent towards learning such type of comparison between the communications skills of the respondents.

The statistics shows that the value of chi square $x^2 = 246.349 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course participants learned to compare one's own communication styles with those of others.

Table: 4.33 Learned different personality based communication styles

Options	Observed N	Percent	Expected N	Statistics
Low Extent	384	55.33	231.3	Chi-Square: 162.331 df: 02 Table Value:9.4888
Uncertain	119	17.14	231.3	
High Extent	191	27.52	231.3	
Total	694	100		

This table shows that 27.52% respondents agreed to a high extent that PCEPT Program helped them in exploring different personality based communication styles. On the other hand 55.33% respondents were of the view that through PCEPT course they didn't explore personality based communication styles to a high extent.

It becomes obvious from the statistical analysis that the value of chi square $x^2 = 162.331 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course participants learned to explore different personality based communication styles.

Table: 4.34 Learned to apply different communication handling mechanisms

Options	Observed N	Percent	Expected N	Statistics
Low Extent	202	29.10	231.3	Chi-Square: 489.055 df: 02 Table Value:9.4888
Uncertain	96	13.83	231.3	
High Extent	394	56.77	231.3	
Total	694	100		

This table shows that 56.77% respondents agreed to a high extent that PCEPT Program helped them in learning how to apply different communication handling mechanism as per the demand of the situation. On the other hand 29.10% respondents were of the view that this course contributed to low extent towards situational requirements of communication.

It becomes evident from the analysis that the value of chi square χ^2 = 489.055 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course participants learned to apply different communication handling mechanism as per the demand of the situation.

Table: 4.35 Learned to use non-verbal communication gestures for effective communication

Options	Observed N	Percent	Expected N	Statistics
Low Extent	92	13.25	231.3	Chi-Square: 1214.046 df: 02 Table Value:9.4888
Uncertain	33	4.75	231.3	
High Extent	567	81.70	231.3	
Total	694	100		

This table shows that 81.70% respondents agreed to a high extent that PCEPT Program helped them in learning to use non-verbal communication gestures for

effective communication. On the other hand 13.25% respondents were of the view that this course contributed to low extent towards learning non-verbal gestures.

From the statistical analysis of the results it is evident that the value of chi square χ^2 = 1214.046 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course participants learned to use non-verbal communication gestures for communicating their messages.

Table: 4.36 Learned different types of researches relevant to their disciplines

Options	Observed N	Percent	Expected N	Statistics
Low Extent	273	39.33	231.3	Chi-Square: 600.628 df: 02 Table Value:9.4888
Uncertain	33	4.75	231.3	
High Extent	386	55.61	231.3	
Total	694	100		

This table shows that 55.61% respondents agreed to a high extent that PCEPT Program helped them in learning different types of researches relevant to their discipline. On the other hand 39.33% respondents were of the view that this course contributed to low extent towards learning various types of researches.

The statistics shows that the value of chi square χ^2 = 600.628 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which means that there is an association between PCEPT program contents and learning of various types of discipline specific researches.

Table: 4.37 Gained understanding of the ethics involved in conducting research

Options	Observed N	Percent	Expected N	Statistics
Low Extent	537	77.37	231.3	Chi-Square: 645.219 df: 02 Table Value:9.4888
Uncertain	11	1.58	231.3	
High Extent	146	21.03	231.3	
Total	694	100		

This table shows that 21.03% respondents agreed to a high extent that through the PCEPT Program they gained understanding of the ethics involved in conducting research. On the other hand 77.37% respondents were of the view that this course contributed to low extent towards enhancing their understanding of the research ethics.

The value of chi square $x^2 = 645.219 > 9.4888$ at $\partial = 0.05$ and df = 2 s per the statistical calculations of the data. Therefore the result was statistically significant which means that there is an association between the PCEPT course and learning the ethics of conducting research.

Table: 4.38 Learned different research designs

Options	Observed N	Percent	Expected N	Statistics
Low Extent	200	28.81	231.3	Chi-Square: 451.862
Uncertain	20	2.88	231.3	df: 02
High Extent	474	68.29	231.3	Table Value:9.4888
Total	694	100		

This table shows that 68.29% respondents agreed to a high extent that PCEPT Program helped them in exploring different types of research designs and their particular functions. On the other hand 28.81% respondents were of the view that to a low extent the PCEPT course contributed towards this type of knowledge.

As per statistical calculation it is evident that the value of chi square χ^2 = 451.862 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that there was an association between PCEPT Course and participants' learning of various research designs and functions of each of the design.

Table: 4.39 Learned to formulate a research statement

Options	Observed N	Percent	Expected N	Statistics
Low Extent	156	22.47	231.3	
Uncertain	27	3.89	231.3	Chi-Square: 543.115
High Extent	511	73.63	231.3	df: 02
Total	694	100		Table Value:9.4888

This table shows that 73.63% respondents agreed to a high extent that PCEPT Program helped them in learning to formulate research statements in their area of research. On the other hand, 22.47% respondents were of the view that this course contributed to low extent towards learning how to write the research problem.

The results make it evident that the value of chi square χ^2 = 543.115 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course participants learned how to formulate the research problem in the form of statement. On the basis of the statistical analysis we accept that there is an association between PCEPT course and the learning regarding the formulation of the research statement.

Table: 4.40 Learned to formulate research questions.

Options	Observed N	Percent	Expected N	Statistics
Low Extent	254	36.59	231.3	Chi-Square: 268.101
Uncertain	45	6.48	231.3	df: 02
High Extent	395	56.91	231.3	Table Value:9.4888
Total	694	100		

This table shows that 56.91% respondents agreed to a high extent that PCEPT Program helped them in learning to formulate research questions. On the other hand 36.59% respondents were of the view that this course contributed to low extent in learning to formulate research questions.

It becomes evident from the statistical analysis that the value of chi square x^2 = 268.101 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course participants learned to formulate research questions through the module Research Methods and Skills.

Table: 4.41 Learned to apply procedures involved in different sampling techniques

Options	Observed N	Percent	Expected N	Statistics
Low Extent	308	44.38	231.3	Chi-Square: 173.199 df: 02 Table Value:9.4888
Uncertain	68	9.79	231.3	
High Extent	318	45.82	231.3	
Total	694	100		

This table shows that 45.82% respondents agreed to a high extent that PCEPT Program helped them in learning to apply procedures involved in different sampling techniques. On the other hand 44.38% respondents were of the view that this course

contributed to low extent in learning procedural formalities involved in various sampling techniques.

The results show that the value of chi square $\chi^2 = 173.199 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course participants learned procedural steps involved in different types of sampling techniques.

Table: 4.42 Learned the procedure for the construction of different research tools

Options	Observed N	Percent	Expected N	Statistics
Low Extent	420	60.51	231.3	Chi-Square: 279.435 df: 02 Table Value:9.4888
Uncertain	62	8.93	231.3	
High Extent	212	30.54	231.3	
Total	694	100		

This table shows that 60.51% respondents agreed to a high extent that PCEPT Program helped them in learning the procedure for the construction of different research tools. On the other hand 30.54% respondents were of the view that this course contributed to low extent towards learning of the said procedure.

According to statistics applied the value of chi square $\chi^2 = 279.435 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that the course participants learned the procedure for the construction of different types of research tools.

Table: 4.43 Learned the techniques of qualitative data analysis process

Options	Observed N	Percent	Expected N	Statistics
Low Extent	522	75.21	231.3	Chi-Square: 550.948 df: 02 Table Value:9.4888
Uncertain	67	9.65	231.3	
High Extent	105	15.12	231.3	
Total	694	100		

This table shows that only 15.12% respondents agreed to a high extent that PCEPT Program helped them in learning qualitative data analysis techniques. On the other hand a huge majority of the respondents i.e. 75.21% respondents were of the view that the module on Research Methods and Skills contributed to low extent towards learning qualitative data analysis techniques.

The analysis shows that the value of chi square $x^2 = 550.948 > 9.4888$ at $\partial = 0.05$ and df = 2. Therefore the result was statistically significant which showed that an association or relationship existed between qualitative data analysis and the content of the PCEPT course.

Table: 4.44 Learned the techniques of quantitative data analysis

Options	Observed N	Percent	Expected N	Statistics
Low Extent	275	39.62	231.3	Chi-Square: 269.622 df: 02 Table Value:9.4888
Uncertain	37	5.33	231.3	
High Extent	382	55.04	231.3	
Total	694	100		

This table shows that 55.04% respondents agreed to a high extent that PCEPT Program helped them in learning the techniques of quantitative data analysis. On the

other hand 39.62% respondents were of the view that this course contributed to low extent in learning of quantitative data analysis.

The statistical results make it evident that the value of chi square x^2 = 269.622 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that through the module "Research Methods and Skills", PCEPT course participants leaned the techniques of quantitative data analysis required during the research.

Table: 4.45 Learned to perform their role as a supervisor

Options	Observed N	Percent	Expected N	Statistics
Low Extent	333	47.98	231.3	Chi-Square: 128.752 df: 02 Table Value:9.4888
Uncertain	96	13.83	231.3	
High Extent	265	38.18	231.3	
Total	694	100		

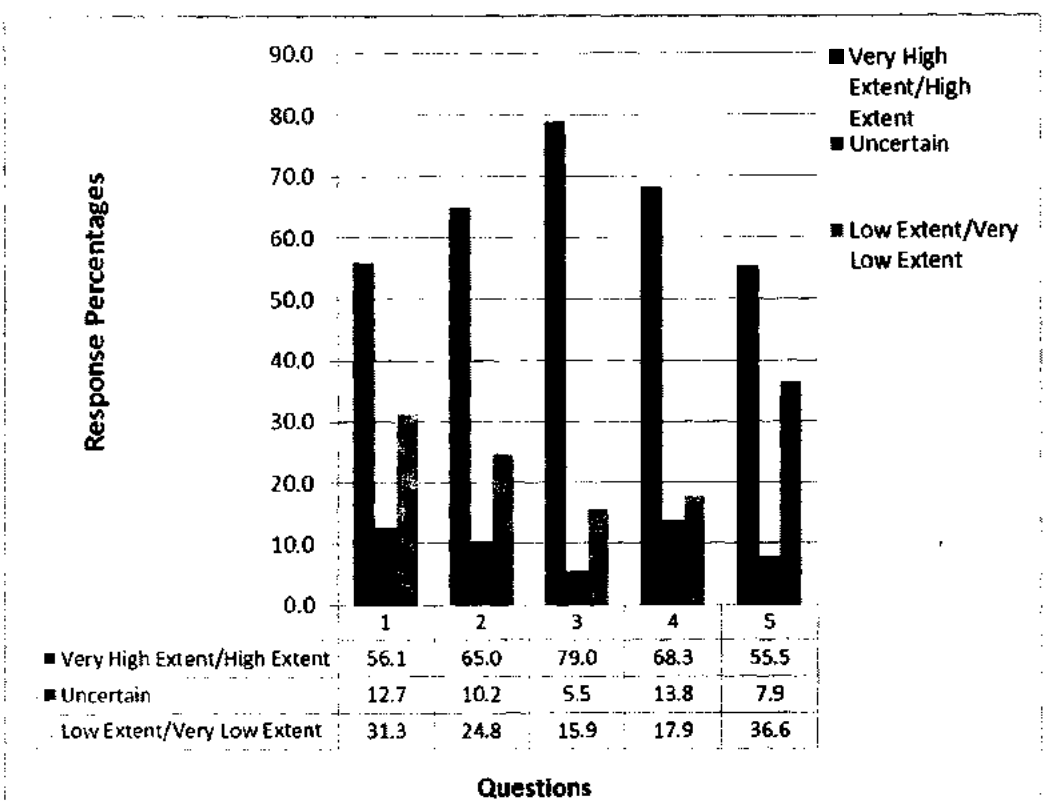
This table shows that 38.18% respondents agreed to a high extent that through this course they learnt to perform their roles as research supervisors of the students at university level. While 47.98% disagreed that they learnt the techniques of performing the role of research supervisors through this course. 13.83% respondents were uncertain in response to this question.

The results shows that the value of chi square x^2 = 128.752 > 9.4888 at ∂ = 0.05 and df = 2. Therefore the result was statistically significant which showed that the course participants learned their roles as research supervisors for effectively supervising at different stages of research.

4.1.1 Comparative Analysis of Six Modules

In order to determine the individual quality and effectiveness of the seven modules used, the researcher made an in-depth analysis. The percentages have been categorized into three ranges i.e. 0-33%; 34-66%; and 67-100%. For the purpose of interpretation 0-33 has been labeled as below average category; 34-66 has been labeled as an average range and 67-100 is categorized in above average category. Now after having these three ranges, scores on individual statements have been interpreted accordingly for each of the seven modules. The graphical presentation along with the description is shown below:

Figure 4.1: Graphical Presentation of the responses on the statements of Module-01 Teaching as a Profession

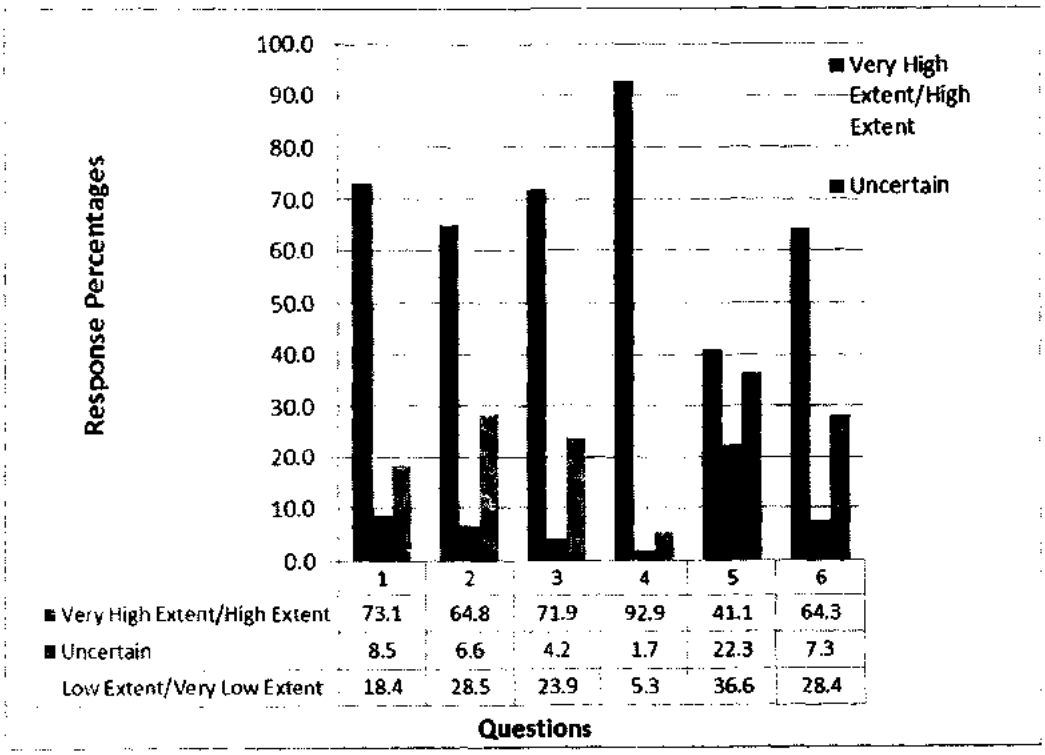


The graphical representation shows that three of the five statements are in average category according to the pre-specified cut off ranges. Two statements have the percentage above 66%, which means that these have been above average rated with respect to respondents learning of the concepts asked related to Module 01 Teaching as a Profession. Another noteworthy fact is that not a single statement is marked on below average category.

For having more clarity, the statements have been arranged in descending order starting for the most learned to least learned concepts within first module:

1. Learned the intellectual roles and responsibilities of university teachers (79%)
2. Learned to identify teachers' roles as an agent of social change (68%)
3. Learned to apply professional ethics and moral values in teaching (65%)
4. Gained understanding of role of the teaching profession (56%)
5. Learned to develop professional networking and collaboration for knowledge sharing in conferences, seminars and workshops (55%)

Figure 4.2: Responses on the statements of Module-02 Academic Planning and Management



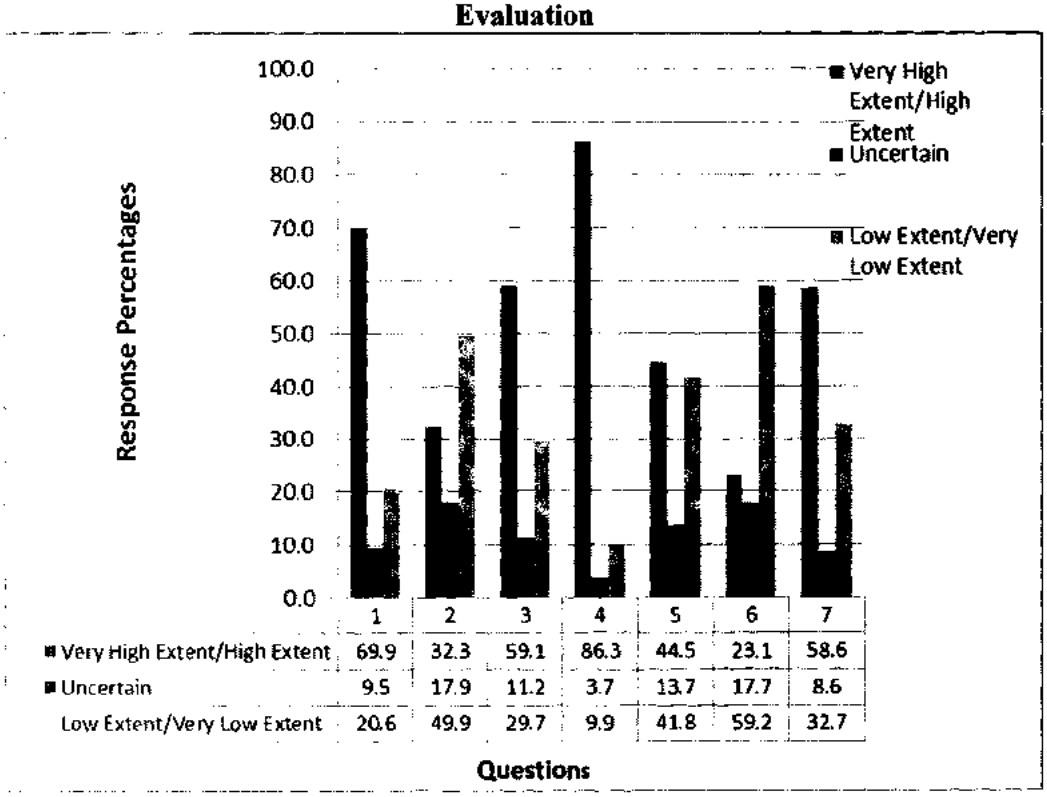
	1	2	3	4	5	6
Very High Extent/High Extent	73.1	64.8	71.9	92.9	41.1	64.3
Uncertain	8.5	6.6	4.2	1.7	22.3	7.3
Low Extent/Very Low Extent	18.4	28.5	23.9	5.3	36.6	28.4

The graphical analysis of module 02 shows that 03 statements out of 06 are lying in 'above average range' as per respondent's opinions. While 03 remaining are in average category which means that 33-66% respondents learned to concepts mentioned in the statements given below at serial 3, 4 and 6. For the clarity purpose the hierarchical order of the module 02 concepts learned by the faculty members is given below:

1. Learned modern classroom management techniques for handling adults 93%.
2. Learned to apply Academic Planning and Management strategies to your work 73%.
3. Learned to apply strategies of long term (monthly, semester) planning of your time 72%.
4. Learned to apply strategies of short term (daily,) planning of time 65%.

5. Learned the strategies of planning and management of a research project 64%.
6. Learned how to develop positive attitudes towards inclusive classroom environments for students with different backgrounds 41%.

Figure 4.3: Responses on the statements of Module-03 Curriculum Development, Assessment and Evaluation



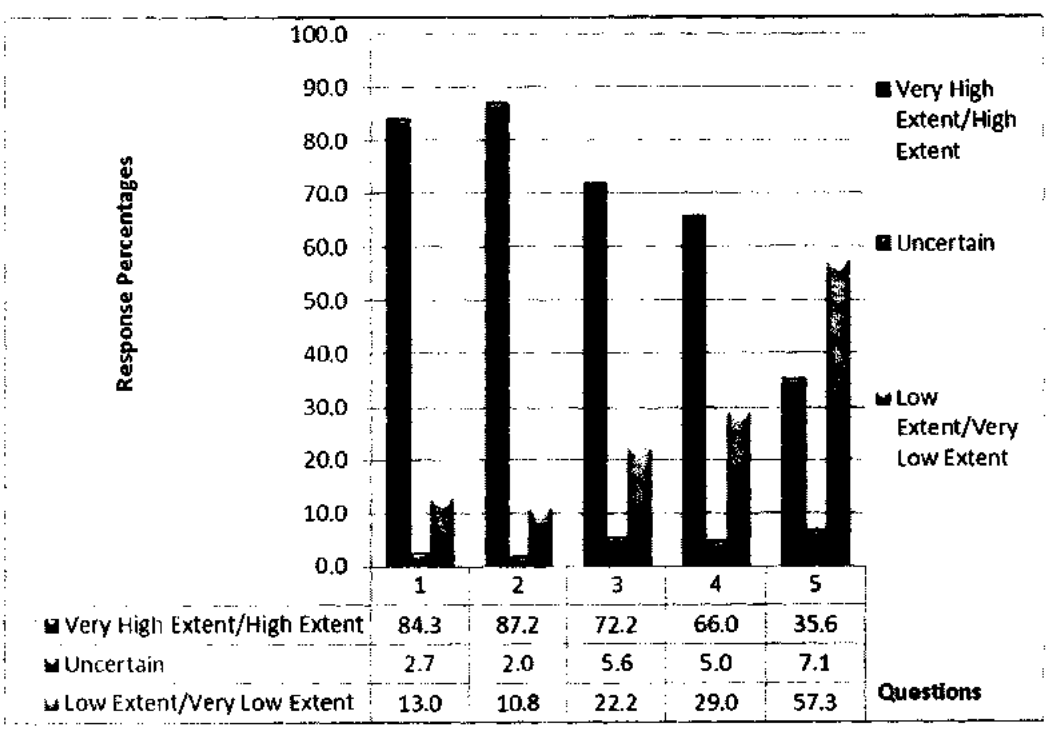
	1	2	3	4	5	6	7
Very High Extent/High Extent	69.9	32.3	59.1	86.3	44.5	23.1	58.6
Uncertain	9.5	17.9	11.2	3.7	13.7	17.7	8.6
Low Extent/Very Low Extent	20.6	49.9	29.7	9.9	41.8	59.2	32.7

The above graphical representation shows that out of seven statements, response percentage of 02 were in above satisfactory range i.e. above 67%, response percentage of 03 statements were laying between 33-66% range which is labeled as average category and two statements are laying below average range. The hierarchical order in descending order is shown below:

1. Learned the importance of variety of tests to assess student's academic performance (86%)

2. Learned to use a model of curriculum to assess the strengths and weaknesses of your own Syllabi (70 %)
3. Learned to identify instructional strategies relating to learning out comes (59%)
4. Learned to explore ways for students to self-monitor their learning (59%)
5. Learned to represent the ability level of the students in numbers and letters (45%)
6. Learned to select content in accordance with the expected learning outcomes (32%)
7. Explored how to prepare students for different professions/roles using the multiple intelligence theory (23%)

Figure 4.4: Responses on the statements of Module-04 Learners' Psychology

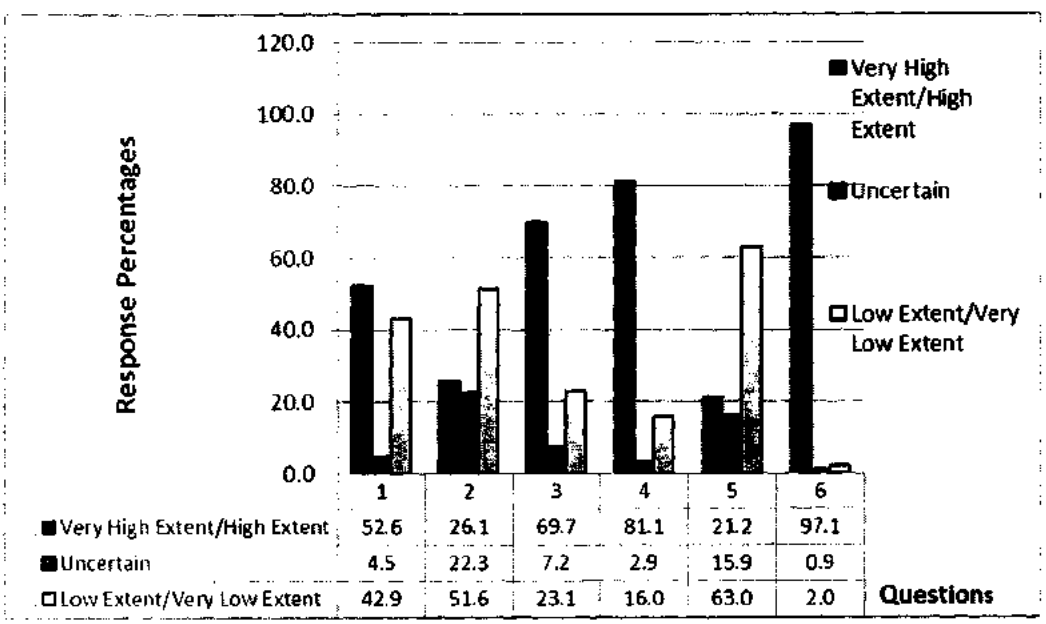


	1	2	3	4	5
Very High Extent/High Extent	84.3	87.2	72.2	66.0	35.6
Uncertain	2.7	2.0	5.6	5.0	7.1
Low Extent/Very Low Extent	13.0	10.8	22.2	29.0	57.3

The graph above shows statement-wise analysis of the module Learner's Psychology. According to the responses, 03 statements out of 05 can be categorized in above average range which is between 67% to 100%, while one is in average range and one statement is laying in the 'below average category'. The hierarchical order of the statements according to the responses is shown below:

1. Learned to apply good teaching principles in your teaching (87%).
2. Explored different techniques to raise the motivational level of the learners (84%).
3. Learned to identify emotional / behavioral difficulties which hinder learning process of students (72%).
4. Learned the techniques of guiding and counseling the adults (66%).
5. Learned the techniques of stress management (36%).

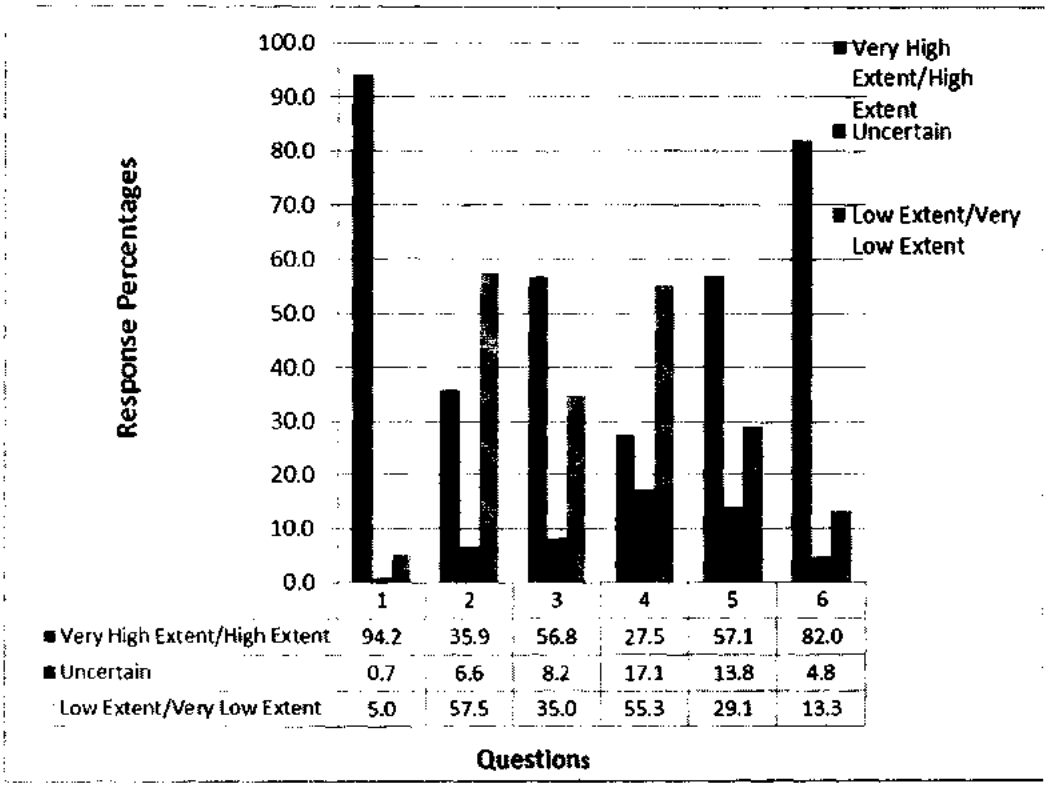
Figure 4.5: Responses on the statements of Module-05 Andragogical Skills



Keeping in view the cut off range, the above graph shows that 03 statements out of 06 are laying in the above average range; 01 statement is in average range while 02 are laying below average as per the cut off range specified for below average category i.e. 0-33%. The statement wise descending order of mean percentages is shown below:

1. Explored the strengths and weaknesses through microteaching session (97%).
2. Explored the effective use of different teaching strategies (81%).
3. Learned to apply the principles of learning and learning styles in your classroom teaching (70%).
4. Learned to differentiate between teachers centered and student centered teaching (53%).
5. Learned to conceptualize learning theories and their impact on effective classroom teaching (26%).
6. Explored how students can use their prior knowledge and experience in learning the material (21%).

Figure 4.6: Responses on the statements of Module-06 Communication Skills



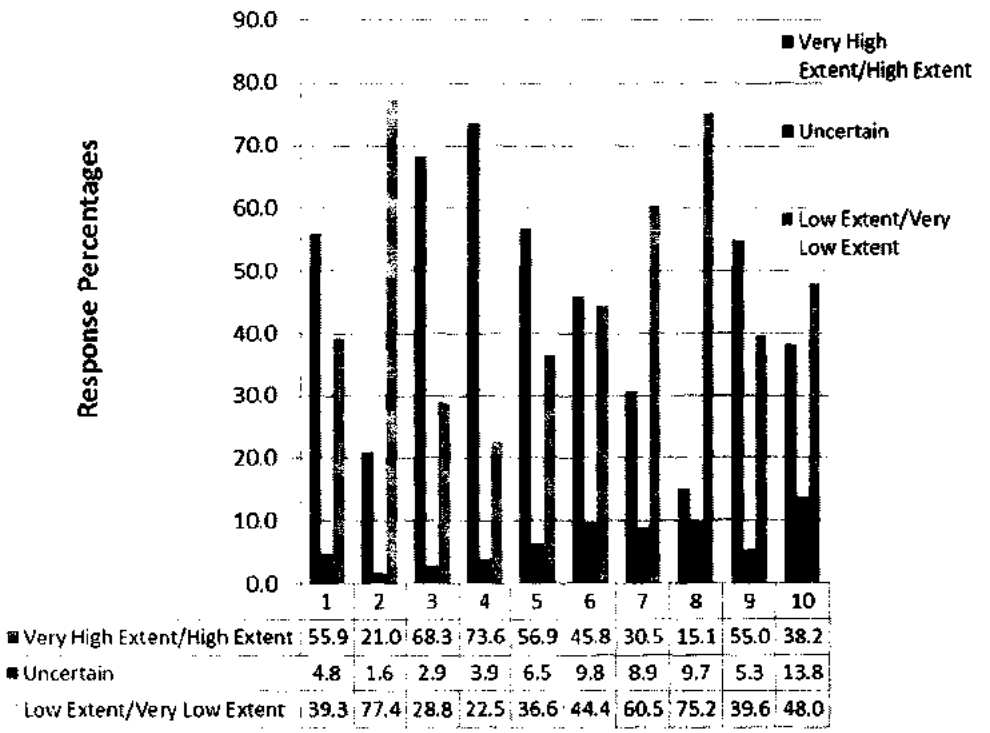
	1	2	3	4	5	6
Very High Extent/High Extent	94.2	35.9	56.8	27.5	57.1	82.0
Uncertain	0.7	6.6	8.2	17.1	13.8	4.8
Low Extent/Very Low Extent	5.0	57.5	35.0	55.3	29.1	13.3

The dissection of the statements of communication skills modules shows that 02 statements were laying well above the satisfactory range i.e. 67%, 03 statements were laying in the average category while one was on below average range. For having more exactness the statements are shown in hierarchical order below:

1. Learned to identify and handle barriers to effective communication (94%)
2. Learned to use non-verbal communication gestures for effective communication (82%)
3. Learned to apply different communication handling mechanisms as per the situation demands (57%)
4. Learned to compare one's own communication styles with those of others (57%)

5. Learned the importance and role of personality in communication in an academic context (36%)
6. Explored different personality based communication styles (28%)

Figure 4.7: Responses on the statements of Module-07 Research Methods and Skills



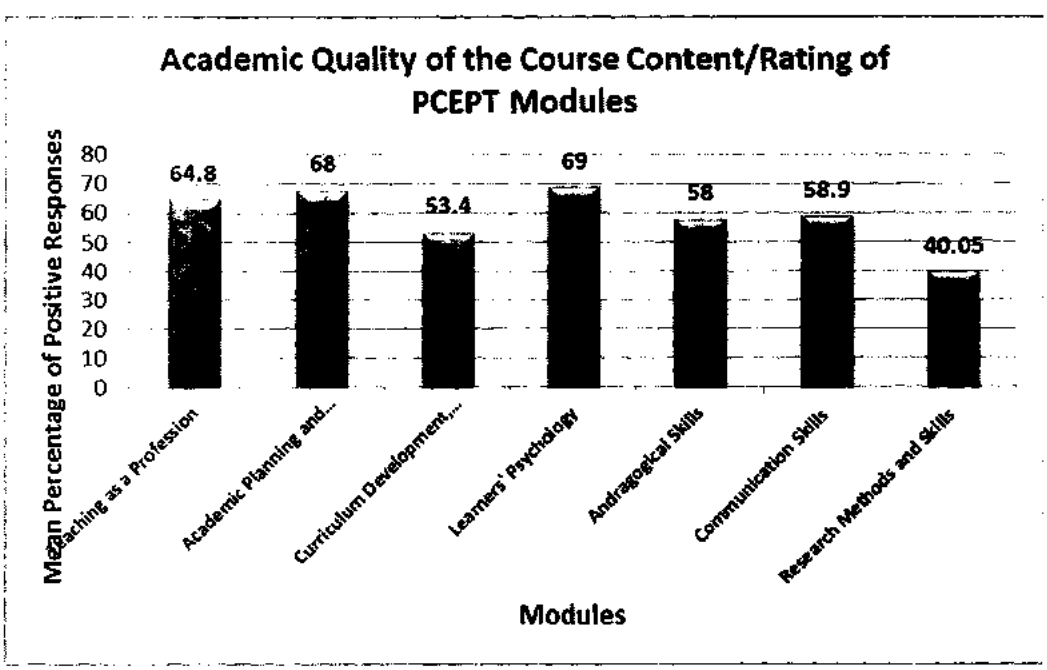
	1	2	3	4	5	6	7	8	9	10
Very High Extent/High Extent	55.9	21.0	68.3	73.6	56.9	45.8	30.5	15.1	55.0	38.2
Uncertain	4.8	1.6	2.9	3.9	6.5	9.8	8.9	9.7	5.3	13.8
Low Extent/Very Low Extent	39.3	77.4	28.8	22.5	36.6	44.4	60.5	75.2	39.6	48.0

In the summary analysis of Module 07, it is evident that most of statements are tilted towards the disagreement at a very high or high extent with the mean percentage of 40. It is evident from the above mentioned graphical representation that 02 out of 10 statements are skewed on positive side. Keeping in view the cut off ranges, 05 statements are in average category and remaining 03 are lying in below average category. Therefore it can be concluded that the module on module on Research

methods and skills was not a very good depiction of quality with respect to academic usability of the content.

1. Learned to formulate a research statement (74%)
2. Explored different research designs and their functions (68%)
3. Learned to formulate research questions (57%)
4. Learned different types of researches relevant to your disciplines (56%)
5. Learned the techniques of quantitative data analysis process (55%).
6. Learned to apply procedures involved in different sampling techniques (46%)
7. Learned to perform your role as a supervisor at different stages (38%).
8. Learned the procedure for the construction of different research tools (31%)
9. Gained understanding of the ethics involved in conducting research (21%)
10. Learned the techniques of qualitative data analysis process (15%).

Figure 4.8 Summary of Modules Rating



The summary of the responses shows that the module on Learners' Psychology was rated first with the mean percentage of 69%, the module on Academic Planning and Management was rated second with the average percentage of 68%, the module on Teaching as a Profession was rated third with the average percentage of 64.8%, the module on Communication Skills was rated as fourth with the average percentage of 58.9%, the module on Andragogical Skills was rated fifth with the average percentage of 58%, and the module on Curriculum Development, Assessment and Evaluation was rated at sixth with the mean percentage of 53.4%, and the least rated module was Research Method and Skills having the average percentage of 40.05%.

In-response to question regarding the quality of content delivery by resource persons against each of the following modules; the responses in percentage form are given below:

Table 4.46: Quality of Resource Persons

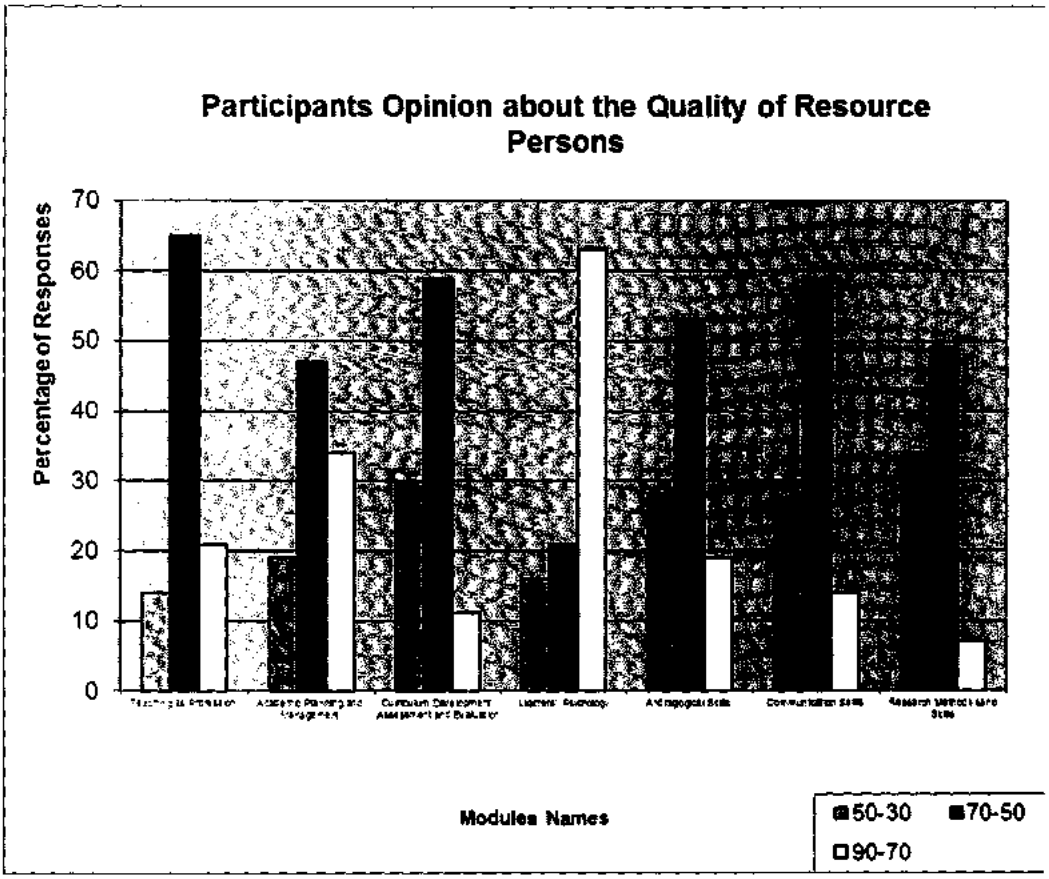
	Quality Range		
Modules	**Below 30-50**	**50-70**	**70-90 and above**
Teaching as a Profession	14%	65%	21%
Academic Planning and Management	19%	47%	34%
Curriculum Development, Assessment and Evaluation	30%	59%	11%
Learners' Psychology	16%	21%	63%
Andragogical Skills	28%	53%	19%
Communication Skills	27%	59%	14%
Research Methods sand Skills	34%	49%	7%

The above table shows the quality of resource persons engaged in during the PCEPT program held across Pakistan. Three ranges were fixed for determining the quality of

Resource Persons. According to the responses, the best resource person were available for the module Learners' Psychology, in which 63% marked the highest range that was above 70-90 range. The second best resource persons were available for the module Academic Planning and Management. The third best resource persons were available for the module Teaching as a Profession. The least rated resource persons were available for the module Research Methods and Skills.

It is noteworthy to mention here that from the results of the previous section on academic quality of the modules, the modules having higher rating on Likert scale have similar position in the quality of resource persons section. Respondents rated Learners Psychology as the first among seven modules with respect to academic quality and now in the quality of resource persons section the best resource persons were available for the module on learners' psychology. Based on this it can be stated with confidence that quality of resource person is directly effecting the respondents' perceptions about the academic quality of a particular module.

Figure 4.9: Module-Wise Quality of Resource Persons according to Three Categories



4.2 Section B: Section-B of the questionnaire developed for the course participants was based on the assumptions which were included to assess the problems faced by the faculty members during their participation in the training programs. The responses of the faculty members are statement-wise presented in tabular form.

Table 4.47: Faculty members are being overwhelmed (in terms of Resource Persons expectations)

Options	Frequency	Percent
Disagree	430	61.96
No Opinion	18	2.59
Agree	246	35.45
Total	694	100.0

In response to the statement 61.96% of the respondents disagreed with the existence of this problem, while 35.45% agreed to the existence of the problem of overwhelming of the course participants' with course expectations.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {35.45 ± 1.96 x 1.78(SE)} i.e. 31.96 < 35.45 < 38.93 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 31.96 to 38.93.

Table 4.48: Faculty members are overloaded with too many responsibilities during the course

Options	Frequency	Percent
Disagree	114	16.43
No Opinion	29	4.18
Agree	551	79.39
Total	694	100.0

In response to the statement 16.43% of the respondents disagreed with the existence of this problem, while 79.39% agreed that faculty members are over loaded with other responsibilities even during the course.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {79.39 ± 1.96 x 1.37(SE)} i.e. 76.71 < 79.39 < 82.08 was significant at 0.05

level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 76.71 to 82.08.

Table 4.49: Absence of enough faculty members at the university who could take our responsibilities as alternative arrangements

Options	Frequency	Percent
Disagree	345	49.71
No Opinion	41	5.91
Agree	308	44.38
Total	694	100.0

In response to the statement 49.71% of the respondents disagreed with the existence of this problem, while 44.38% agreed there were not enough faculty members at universities who could share the teaching responsibilities with them.

The alpha value being fixed at 0.05, we can conclude that the confidence interval $\{44.38 \pm 1.96 \times 1.78(SE)\}$ i.e. $40.89 < 44.38 < 47.88$ was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 40.89 to 47.88.

Table 4.50: Difficulty in meeting both the expectations of university and program requirement

Options	Frequency	Percent
Disagree	159	22.91
No Opinion	15	2.16
Agree	520	74.93
Total	694	100.0

In response to the statement 22.91% of the respondents disagreed that it was difficult to meet the university ad program requirements simultaneously, on the other hand 74.93% agreed that it became very difficult for them to meet the course requirements simultaneously with the university's expectations.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {74.93 ± 1.96 x 1.57(SE)} i.e. 71.85 < 74.93 < 78.01 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 71.85 to 78.01.

Table 4.51: Difficulty in rescheduling of university classes during the course

Options	Frequency	Percent
Disagree	279	40.20
No Opinion	20	2.88
Agree	395	56.92
Total	694	100.0

In response to the statement 40.20% of the respondents disagreed with the existence of this problem, while 56.92% agreed that during the PCEPT course, it was difficult to reschedule university classes at some other time.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {56.92 ± 1.96 x 1.82(SE)} i.e. 53.36 < 56.92 < 60.48 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 53.36 to 60.48.

Table 4.52: Universities not considering PCEPT program as part of the faculty workload

Options	Frequency	Percent
Disagree	418	60.23
Neutral or no opinion	09	1.30
Agree	267	38.47
Total	694	100.0

In response to the statement 60.23% of the respondents disagreed, while 38.47% agreed that their universities didn't consider PCEPT course as part of their workload and assign the responsibilities in a routine manner.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {38.47 ± 1.96 x 1.83(SE)} i.e. 34.89 < 38.47 < 42.05 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 34.89 to 42.05.

Table 4.53: Covering longer distances to reach the venue was problematic

Options	Frequency	Percent
Disagree	394	56.77
No Opinion	88	12.68
Agree	212	30.55
Total	694	100.0

In response to the statement 56.77% of the respondents disagreed to the problem of reaching at the course venue, while 30.55% agreed that it was difficult to reach the course venue due to being at a distant place geographically.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {30.55 ● 1.96 x 1.58(SE)} i.e. 27.45 < 30.55 < 33.65 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 27.45 to 33.65.

Table 4.54: Accommodation arrangements were not sufficient

Options	Frequency	Percent
Disagree	200	28.82
No Opinion	440	63.40
Agree	54	7.78
Total	694	100.0

In response to the statement 28.82% of the respondents disagreed, while 7.78% agreed that accommodation arrangements were not sufficient. Notably 63.40% of the respondents remained neutral, and it seemed that they didn't require accommodation at all.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {7.78 ± 1.96 x 0.57(SE)} i.e. 6.67 < 7.78 < 8.90 was significant at 0.05 level.

Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 6.67 to 8.90.

Table 4.55: Absence of fulltime and continuous commitment as per the program requirement, by the participating faculty members

Options	Frequency	Percent
Disagree	479	69.02
No Opinion	35	5.04
Agree	180	25.94
Total	694	100.0

In response to the statement 69.02% of the respondents disagreed with the existence of this problem, while 25.94% agreed to the existence of the problem of continuous commitment by the PCEPT course participants.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {25.94 ± 1.96 x 1.61(SE)} i.e. 22.79 < 25.94 < 29.08 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 22.79 to 29.08.

Table 4.56: Lack of reward/acknowledgement or visible recognition

Options	Frequency	Percent
Disagree	72	10.37
No Opinion	09	1.30
Agree	613	88.33
Total	694	100.0

In response to the statement 10.37% of the respondents disagreed with the existence of this problem, while 88.33% agreed to the existence of the problem of lack of reward or visible recognition for attending the course.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {88.33 ± 1.96 x 1.15(SE)} i.e. 86.08 < 88.33 < 90.58 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 86.08 to 90.58.

Table 4.57: The attitude of Heads of Departments/senior faculty members was non-flexible for implementing change

Options	Frequency	Percent
Disagree	126	18.16
No Opinion	31	4.47
Agree	537	77.38
Total	694	100.0

In response to the statement 18.16% of the respondents disagreed with the existence of this problem, while 77.38% agreed that attitude of heads of departments was non flexible when they try to implement new ideas learnt through PCEPT course.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {77.38 ± 1.96 x 1.42(SE)} i.e. 74.59 < 77.38 < 80.17 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 74.59 to 80.17.

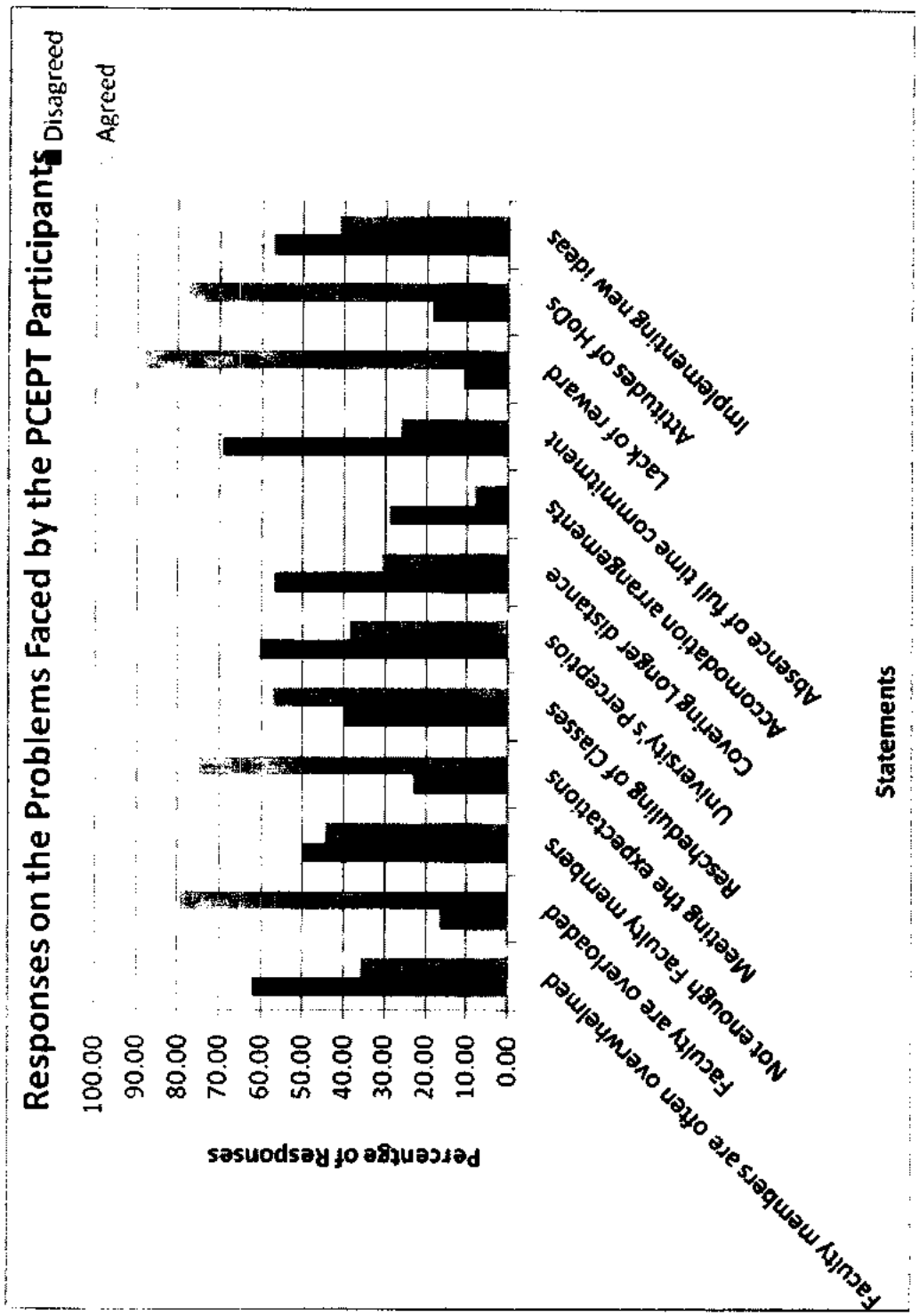
Table 4.58: Implementing new ideas in university set-up become problematic

Options	Frequency	Percent
Disagree	395	56.92
No Opinion	14	2.02
Agree	285	41.07
Total	694	100.0

In response to the statement 56.92% of the respondents disagreed with the existence of this problem, while 41.07% agreed to the existence of the problem of implementing new ideas in the university set-up.

The alpha value being fixed at 0.05, we can conclude that the confidence interval $\{41.07 \pm 1.96 \times 1.84(SE)\}$ i.e. $37.47 < 41.07 < 44.66$ was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 37.47 to 44.66.

Figure 4.10: Responses on Problems faced by the faculty members during the PCEPT courses



The summary of responses shows that the most dominating problem as reported by all the respondents' was Lack of reward or visible recognition after attending this training course, the second major problem was that faculty members were overloaded with too many responsibilities even during the course; third major problem was attitudes of head of departments. The least reported problem was accommodation arrangements but the reason behind the low reporting is most of the faculty members didn't require this facility. The second least reported problem was absence of full time commitment by the participating faculty members. The third least reporting problem was covering longer distances to reach the course venue.

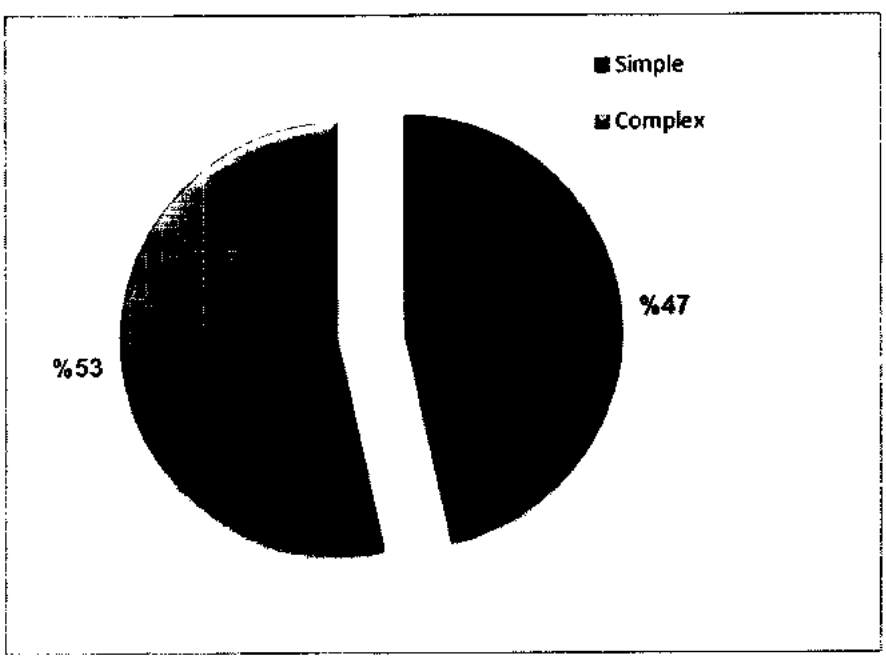
- In response to the question regarding the problems respondents faced but not mentioned in the statements of the questionnaire, only some respondents' wrote about the problem of communication made by the course coordinator if the class was cancelled due to any reason (n=11). This problem was pointed out by the respondents attending the course from any neighboring university; they were not timely communicated about the class cancellation until they reach the training venue. 19 respondents' wrote that they faced the problem of getting revised approval from their parent institution if the course was extended due to cancellation/rescheduling of any module. Some respondents' pointed out the problem of electricity shut down during the sessions and non-availability of any backup system for restoring electricity (n=55).

Regarding the question about the workable solutions to these problems, respondents' responses have been covered in the recommendation sections of the thesis.

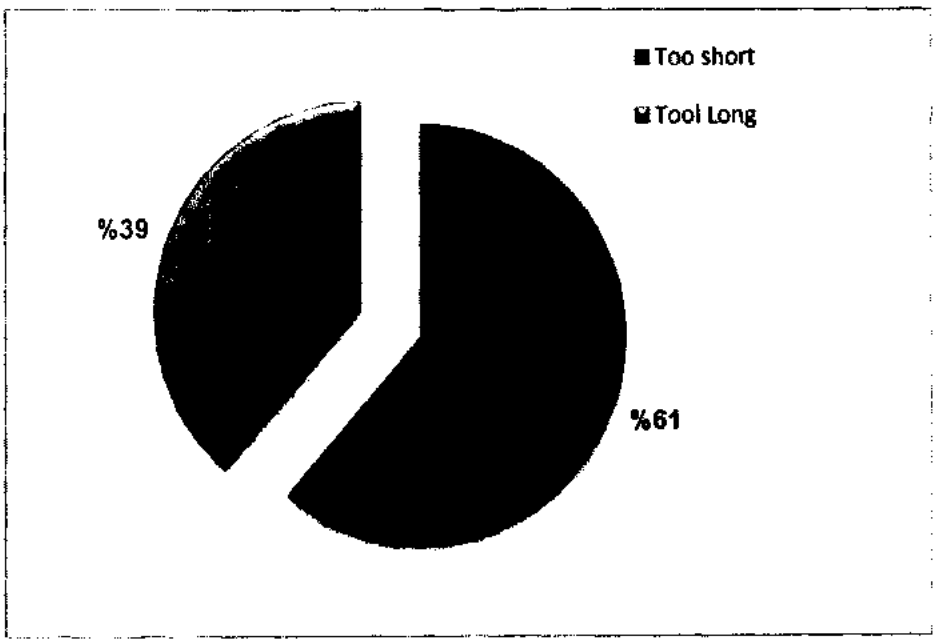
In response to the question regarding the significant changes in the teaching practice of participants there were very few responses i.e. improvement in class preparation (n=04); enhanced communication skills; eye contact; non verbal gestures; interaction with students; etc (n=17)

The researcher analyzed the reason for omission of this question by majority of the faculty members and concluded that the statement of the question i.e. 'three significant changes' made the perception that respondents must have to write three significant changes, not more than that and even not less than that, this might have lead to non responsiveness to this questionnaire by a vast majority of the respondents. However not a single respondent listed three changes in their teaching practice, only 05 mentioned two changes and some i.e. (n=14) mentioned one change they felt in their teaching practice after attending PCEPT course.

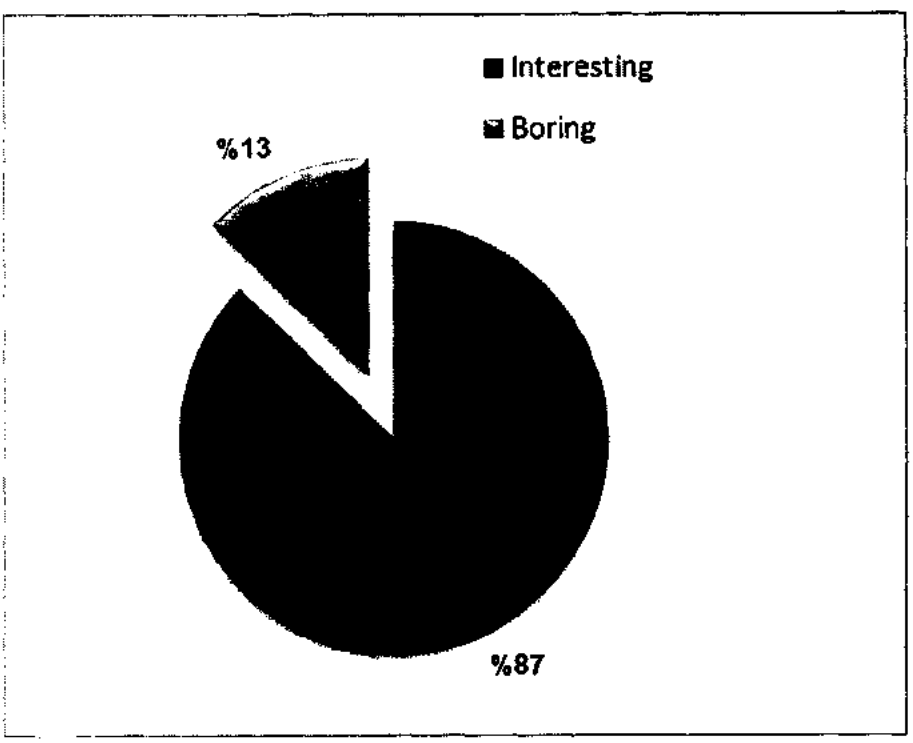
i. Figure 4.11: PCEPT Course was Complex or Simple:



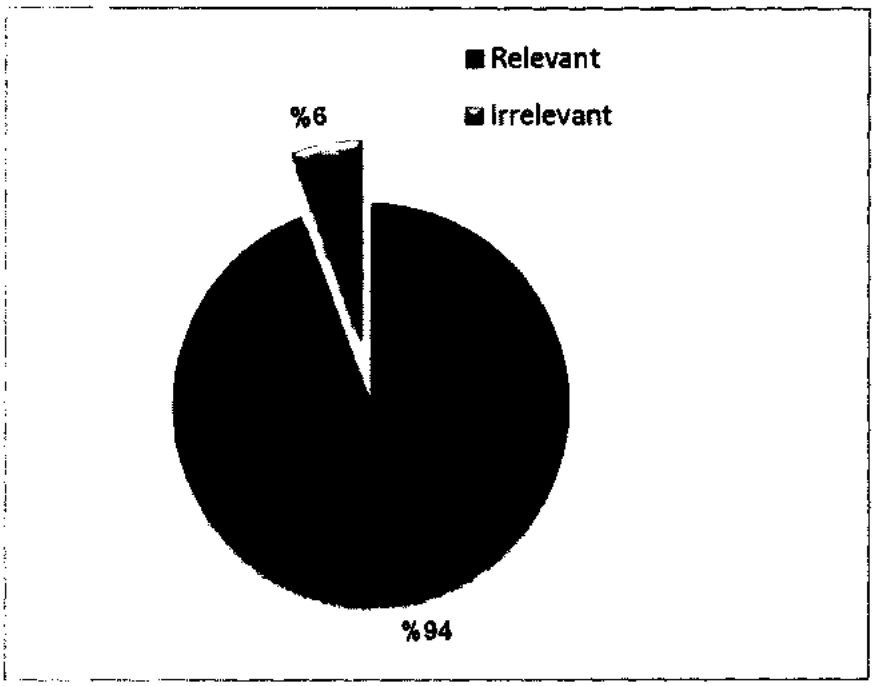
ii. **Figure 4.12: PCEPT Course was too short or too long:**



iii. **Figure 4.13: PCEPT Course was Interesting or Boring:**



iv. **Figure 4.14: PCEPT Course was Relevant or Irrelevant:**



In response to the question regarding 'suggesting the change in running the future program' not a single participant responded to this question. The researcher analyzed the reason and reached at the conclusion that this question was preceded by the question regarding recommendations for future programs so the respondents might considered it repetition to write the same responses again to anther statement.

4.3 Analysis and Interpretation of data Collected through questionnaire developed for the University Coordinators of the PCEPT Courses

One questionnaire in the study was used to analyze the viewpoints of the Course Coordinators of the PCEPT courses. The modus operandi of conducting the courses at the door step of universities was that the University Vice-Chancellor was required to nominate a senior faculty member preferably Head of Department or Dean

of a faculty as a focal person for conducting the course. The focal person was the point of contact for Higher Education Commission in smooth organization of the course. He/she was provided every type of guidance from National Academy of Higher Education (NAHE)/HEC in all matters related to the PCEPT course.

The questionnaire consisted of some presumed problems as statements that could be faced by any University Coordinator conducting the program. The respondents/coordinators were provided with Likert scale to answer these questions. The questionnaire was distributed to all the 33 University Coordinators and in response to that 30 filled proforma's were returned. The responses of the coordinators are presented in tabular form statement-wise.

Table 4.59: Drop-out of the participants during the course was a problem

Options	Frequency	Percent
Disagree	22	73.33
No Opinion	0	0
Agree	08	26.67
Total	30	100.0

In response to the statement 73.33% of the respondents disagreed with the existence of this problem, while 26.67% agreed to the existence of the problem of dropout of PCEPT course participants.

The alpha value being fixed at 0.05, we can conclude that the confidence interval $\{26.67 \pm 1.96 \times 8.07(SE)\}$ i.e. $10.85 < 26.67 < 42.48$ was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 10.85 to 42.48.

Table 4.60: Call for nominations or gathering a group of 35 faculty members was difficult

Options	Frequency	Percent
Disagree	10	33.33
No Opinion	0	0
Agree	20	66.67
Total	30	100.0

In response to the statement it is evident that 33.33% of the respondents disagreed with the existence of this problem, while 66.67% agreed to the existence of the problem of gathering PCEPT course participants. So we can conclude that faculty members were not willing to attend this one month course in the existing circumstances, that's why PCEPT coordinators were having problems in gathering a batch of 35 faculty members.

The alpha value being fixed at 0.05, we can conclude that the confidence interval $\{66.67 \pm 1.96 \times 8.60(SE)\}$ i.e. $49.81 < 66.67 < 83.52$ was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 49.81 to 83.52.

Table 4.61: Attendance of the participants was difficult to maintain till the end of PCEPT course

Options	Frequency	Percent
Disagree	12	40.00
No Opinion	0	0
Agree	18	60.00
Total	30	100.0

In response to the statement it is evident that 40% of the respondents disagreed with the existence of this problem, while 60% agreed that it was difficult for them to maintain the attendance of the course till the end of PCEPT course.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {60.00 ± 1.96 x 8.94(SE)} i.e. 42.48 < 60.0 < 77.52; was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 42.48 to 77.52.

Table 4.62: Difficulty in engaging expert Resource Persons having specialization in the course modules

Options	Frequency	Percent
Disagree	06	20.00
No Opinion	05	16.67
Agree	19	63.33
Total	30	100.0

In response to the statement it is evident that 20% of the respondents disagreed with the existence of this problem, while 63.33% agreed to the existence of the problem of engaging expert Resource Persons for teaching different modules during the course. Interestingly 05 respondents remained neutral or didn't reply to the question.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {63.33 ± 1.96 x 6.5(SE)} i.e. 50.59 < 63.33 < 76.07 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 50.59 to 76.07.

Table 4.63: Maintaining participants' interest for the whole month was difficult

Options	Frequency	Percent
Disagree	19	63.33
No Opinion	03	10.00
Agree	08	26.67
Total	30	100.0

In response to the statement it is evident that 63.33% of the respondents disagreed with the existence of this problem, while 26.67% agreed to the existence of the problem of maintaining participant's interest in the program for the whole month. 03 respondents remained neutral or didn't reply to the question.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {26.67 ± 1.96 x 7.5(SE)} i.e. 11.97 < 26.67 < 41.37 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 11.97 to 41.37.

Table 4.64: In-time start of sessions became problematic

Options	Frequency	Percent
Disagree	24	80.00
No Opinion	02	6.67
Agree	04	13.33
Total	30	100.0

In response to the statement it is evident that 80% of the respondents disagreed with the existence of this problem, while 13.33% agreed to the existence of the problem of in-time start of sessions. 02 respondents remained neutral or didn't reply to the question.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {13.33 ± 1.96 x 5.96(SE)} i.e. 1.65 < 13.33 < 25.01 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 1.65 to 25.01.

Table 4.65: Accommodation for the Resource Persons was difficult to manage

Options	Frequency	Percent
Disagree	25	83.33
No Opinion	01	3.33
Agree	04	13.33
Total	30	100.0

In response to the statement it is evident that 83.33% of the respondents disagreed with the existence of this problem, while 13.33% agreed to the existence of the problem of Resource Persons accommodation. 01 respondent remained neutral or didn't reply to the question.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {13.33 ± 1.96 x 6.09(SE)} i.e. 1.40 < 13.33 < 25.27 was significant at 0.05

level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 1.40 to 25.27.

Table 4.66: Transport facility for the Resource Person was difficult to arrange

Options	Frequency	Percent
Disagree	19	63.33
No Opinion	0	00
Agree	11	36.67
Total	30	100.0

In response to the statement it is evident that 63.33% of the respondents disagreed with the existence of this problem, while 36.67% agreed to the existence of the problem of arranging transport facility for the Resource Persons.

The alpha value being fixed at 0.05, we can conclude that the confidence interval $\{36.67 \pm 1.96 \times 8.8(SE)\}$ i.e. $19.42 < 36.67 < 53.91$ was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 19.42 to 53.91.

Table 4.67: There were procedural delays in collecting advance amount from the university

Options	Frequency	Percent
Disagree	20	66.67
No Opinion	01	3.33
Agree	09	30.0
Total	30	100.0

In response to the statement it is evident that 66.67% of the respondents disagreed with the existence of this problem, while 30% agreed to the existence of the

problem of collecting advance amount transferred by NAHE/HEC, by their respective universities. 01 respondent remained neutral or didn't reply to the question.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {30.0 ± 1.96 x 8.16(SE)} i.e. 14.01 < 30.0 < 45.99 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 14.01 to 45.99.

Table 4.68: There were coordination problems with NAHE during the course

Options	Frequency	Percent
Disagree	25	83.33
No Opinion	01	3.33
Agree	04	13.33
Total	30	100.0

In response to the statement it is evident that 83.33% of the respondents disagreed with the existence of this problem, while 13.33% agreed to the existence of the problem of coordination with NAHE's office during the PCEPT course. 01 respondent remained neutral or didn't reply to the question.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {13.33 ± 1.96 x 6.09(SE)} i.e. 1.40 < 13.33 < 25.27 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 1.40 to 25.27.

Table 4.69: If you agree with statement number 10; please specify the nature of problem

Options	Frequency	Percent
Handling queries	01	3.33
Non Responsiveness	0	0
Timely provision of information	0	0
Any other...	•Funds and accounts related problems •Provision of Resource Person	

In response to the statement only one respondent said that he faced problems with NAHE regarding handling of queries. Two respondents wrote problems different to those specified and these were problem of funds release and accounts related problems by NAHE/HEC and one highlighted provision of quality resource persons by the project NAHE.

Table 4.70: Handling accounts related matters were difficult to manage

Options	Frequency	Percent
Disagree	07	23.33
No Opinion	01	3.33
Agree	22	73.33
Total	30	100.0

In response to the statement it is evident that 23.33% of the respondents disagreed with the existence of this problem, while 73.33% agreed to the existence of the problem of handling accounts of PCEPT course. 01 respondent remained neutral or didn't reply to the question.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {73.33 ± 1.96 x 7.55(SE)} i.e. 58.54 < 73.33 < 88.13 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed

category, we were 95% sure that the confidence interval would range from 58.54 to 88.13.

Responses of the Coordinators on the statement "If you agree with statement 12; please specify the nature of problem"

In response to the statement, 04 coordinators said that due to lack of training they had problem of handling accounts related matters of PCEPT course. 18 coordinators were of the view that university's accounts staff didn't cooperate with them and that's why they faced difficulties. 02 of the respondents were of the view that they didn't get any clear directions from NAHE's office regarding the whole procedure of accounts submission and processing.

Table 4.71: Getting accounts clearance by Resident Auditors was problematic

Options	Frequency	Percent
Disagree	02	6.67
No Opinion	0	0
Agree	28	93.33
Total	30	100.0

In response to the statement it is evident that only 6.67% of the respondents disagreed with the existence of this problem, while 93.33% agreed to the existence of the problem of accounts clearance by the university auditors.

The alpha value being fixed at 0.05, we can conclude that the confidence interval $\{93.33 \pm 1.96 \times 4.55(SE)\}$ i.e. $84.42 < 93.33 < 102.25$ was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 84.42 to 102.25.

Table 4.72: Getting accounts clearance from NAHE/HEC was difficult

Options	Frequency	Percent
Disagree	11	36.67
No Opinion	0	0
Agree	19	63.33
Total	30	100.0

In response to the statement it is evident that only 36.67% of the respondents disagreed with the existence of this problem, while 63.33% agreed to the existence of the problem of accounts clearance by the NAHE/HEC.

The alpha value being fixed at 0.05, we can conclude that the confidence interval $\{63.33 \pm 1.96 \times 8.8(SE)\}$ i.e. $46.09 < 63.33 < 80.58$ was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 46.09 to 80.58.

Figure 4.15: Problems faced by the PCEPT Course Coordinators

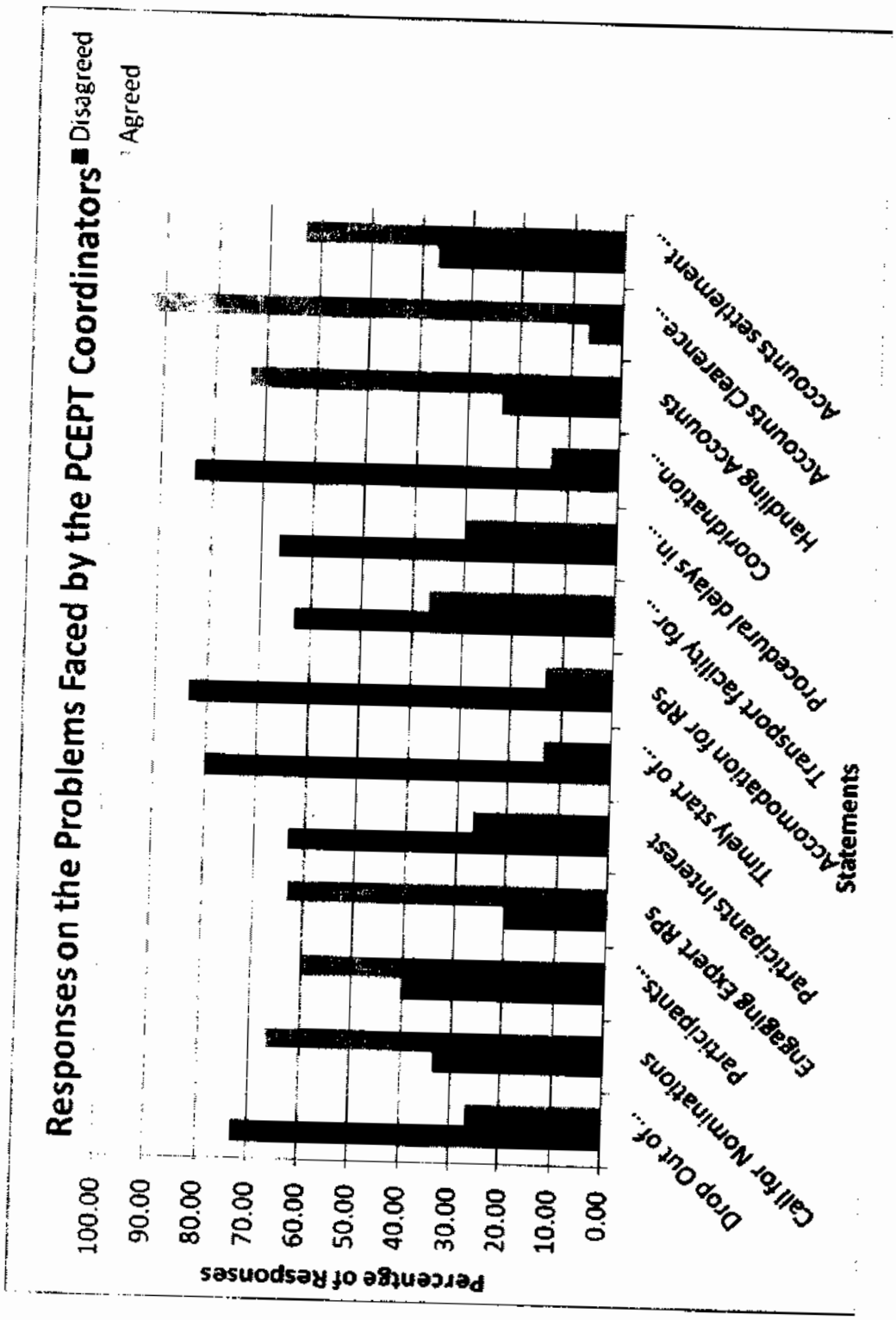


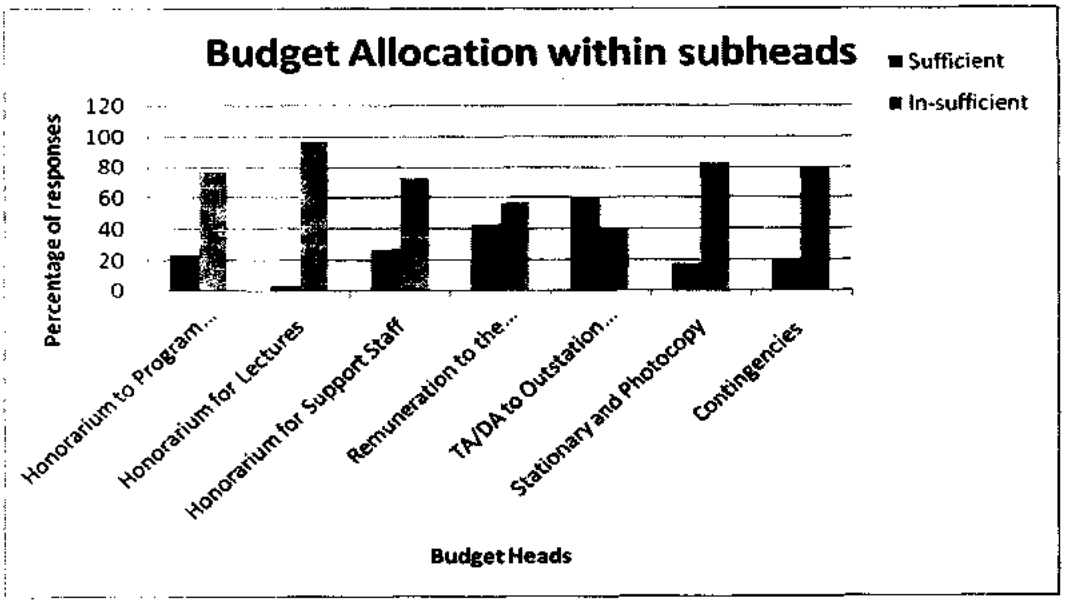
Table 4.73: Use the option "Sufficient" and "Non-sufficient" against each of the budget head allocated for the program

S.No	Budget Heads	Sufficient	In-sufficient
1	Honorarium to Program Participants	07 (23%)	23 (77%)
2	Honorarium for Lectures	01 (3%)	29 (97%)
3	Honorarium for Support Staff	8 (27%)	22 (73%)
4	Remuneration to the University Coordinator	13 (43%)	17 (57%)
5	TA/DA to Outstation Resource Persons	18 (60%)	12 (40%)
6	Stationary and Photocopy	5 (17%)	25 (83%)
7	Contingencies	6 (20%)	24 (80%)

From the comparative analysis of the allocation of budget in each of the subheads, it is evident that respondents were of the view that almost in all subheads the budget allocation was in-sufficient as per the actual requirement. 97% of the coordinators were of the view that budget was insufficient in the subhead Honorarium for Lecturers, 83% were of the view that there was shortage of budget in the stationary and photocopy head, 80% were of the view that contingencies allocation was not sufficient as per the requirements of the course.

In total, 77% coordinators pointed out that Honorarium to the participants was not sufficient keeping in view the duration of the PCEPT course. 73% coordinators were of the view that the amount allocated for the support staff compensation was non-sufficient, 57% highlighted that Remuneration to University coordinator was not sufficient as per their extra workload.

Figure 4.16: Responses of Coordinators on the budget Allocation with in subheads



4.4 Analysis of Open Ended Question

In response to the question regarding **any other problems not mentioned above** but faced by the coordinators most respondents were of the view that they faced the problem related to finances which are given due coverage from all aspects in the statements of the questionnaire.

In response to the questions regarding **the workable solution to overcome these problems** the respondents were of the view that increase in funding would help to fulfill the course requirements more effectively (n=17). Moreover the allocation of funds directly to the course coordinator, instead of routing the amount through Vice Chancellors office then treasurer's offices of the universities, would give the coordinator full authority in the use of financial resources of the course (16 respondents). This will help in the timely payment transfer to the resource persons and other service providers (n=9). Documented provision of rules to accounts person for the adjustment of advance amount will help in overcoming the accounts file related

technical matters (n=11). The procedural formality of getting the accounts file verified by the Resident Auditor should be exempted as the same accounts are re-verified by HEC Audit; so there is no need of verification from Resident auditor's end (n=8). The accounts file should be audited at one end either university or HEC, this would help in saving the time and energy of one office (n=4). The University Registrar should be appointed as Coordinator of the program; as this will help in sorting out nominations related and accounts related all matters (n=6).

In response to the open ended question regarding **the subjects respondents' liked to be included** most of the respondents were of the view that academic ethics must be included in the course (n=47). Some respondents' were of the view that learner's psychology module should be given more weightage of at least one week. (n=37). Some were of the view that e-library and internet communication tools should be included (n=92). The respondents were of the view that a separate module on English Proficiency should be included (n=75). The software on plagiarism scan should also be included in the module research methods and skills in thesis supervision component (n=31). The Statistical Package for Social Sciences (SPSS) should also be included as part of Research Module and hands on practical knowledge of the software should be given in the training course (n=57). Research methodology or techniques of conducting research related to the subjects i.e. mathematics; physics, biological sciences; veterinary sciences, arts and humanities; languages and literature etc. should also be the part of training program (n=121). Micro-teaching module should be given more time allocation (n=153). How to publish research articles should also be included in the training program (n=29). Component on time management skills should have proper weightage in the module Academic Planning and Management. The topics like arts and design should also be

given one or two sessions. The sessions regarding how to develop critical thinking skills among respondents' should also be included. Motivational techniques to attract the faculty towards their professions should also be included in the future programs.

In response to the question regarding **"to make way for any additional material what would you omit"** respondents were of the view that nothing should be omitted instead the duration of the program should be increased from four weeks to six weeks so that additional sessions could be accommodated easily (n=31). Some respondents were of the view that the module on curriculum development should be omitted as they have nothing to do with the processes of curriculum development; it is matter important for top management people (n=58). Nothing should be eliminated instead tings should be made more concise and clear following the time limitations. Communication skills module sessions on body language should be omitted as huge variety of material is available on internet and it is just concerned with the reading, as nothing to do with the facilitators' presence (n=12). Some of the contents in the modules (Learner's Psychology and Andragogical Skills; Academic Planning and Management and Andragogical Skills) were overlapping which need omission.

In response to the question regarding the **best features of the training program** respondents said that PCEPT was a comprehensive program and provided good exposure to teaching methodologies (n=148). It was a comprehensive training program with provision of conducive learning environment (n=70). Micro-teaching was the best feature of the program (n=66). The program had a very exclusive feature of bringing up coordination, cooperation and networking among the faculty members (n=55). Some of the selective but repeated answers of the respondents to question regarding the best feature of the training program are given below:

- Organization of the program

- Appropriate resource persons were selected.
- Research Paper writing skills.
- Practical examples
- Experiences sharing by the resource persons
- Time table was followed
- Real life examples quoted by Resource Persons
- Good presentations by the resource persons
- Modern tools and techniques for teaching methodology
- Everything presented during the course was fantastic
- New concept of Micro Teaching
- Friendly and cooperative environment maintained by the course coordinator.
- Group discussion and question/answers sessions.
- Use of multimedia/modern technology
- Formula of 70-30 representation from neighboring universities was very much unique and it provided a forum for interaction experience sharing with other faculty members.
- Diversity among trainers, diversity among participants' and diversity in the topics of the program gave a very all-encompassing effect to the program.

In response to the question regarding the **aspects which were least beneficial** for the faculty members or weak areas of the program, the responses of the faculty members are categorized below:

- No check and balance for participants.
- The program didn't contain weak points as such.
- Lack of interaction and discussion with students.
- Communication Skills (Body language; hand gestures).

- Most of the resource persons from same university or institution.
- Real problems of students regarding research were omitted.
- Time Management component
- The program duration was too long.
- Material/hand outs were not provided before the start of sessions

In response to the question regarding **the recommendations for the betterment of future training programs** the respondents including participants', resource persons and coordinators gave the following responses:

- Including more subject specific sessions as per the requirements of individual subjects
- Classifying training program with respect to relevant discipline of Engineering, Pure Sciences; Management Sciences etc, so that teachers can easily implement the strategies accordingly.
- It would have been organized in off timings. Conducting program in vacations is one solution.
- Engaging young professionals in addition to senior people as instructors.
- Some basic material should be given to participants before the start of the program.
- Providing lunch
- Introducing modern technology of teaching
- Providing good materials in the form of handouts
- English Language Skills component
- Avoiding repetition of topics
- More time duration to the topics like Micro teaching.

- Resource persons and participants should be invited from different areas of Pakistan and if possible foreign resource persons be engaged.
- Training program should be organized outside the workplace.
- Visits to different departments, Laboratories etc within the institutes.
- Choosing those individuals who are willing to do activity. Do not drag people for such workshop
- Evaluation of participants must be conducted at the end of the training program
- More presentations by participants instead of simple lecturing by the resource persons.
- There is a need to improve the quality of refreshment/food.
- The audio/visual aids should be improved
- Course must be designed on practical approach instead of just lectures.
- Course coordinator can be in pairs of two. One senior and one junior for better coordination.

4.5 Analysis and Interpretation of data collected through questionnaire developed for the Resource Persons of PCEPT Courses

One questionnaire was developed to assess the resource person's views regarding the Professional Competency Enhancement Program for Teachers (PCEPT) course conducted at the public sector universities of Pakistan under the project National Academy of Higher Education (NAHE), Phase-II. This questionnaire had 14 questions in total. The first question comprised of 07 sub questions each one covering the modules taught in the program. The other four questions developed on the scale were related to general course implementation. 07 questions were open-ended covering various dimensions of the study.

The respondents of the study were the Resource Persons who taught the modules at different universities during the PCEPT courses. A sample of 100 RP's was shortlisted using the table of random numbers. However it was taken into consideration that 12 resource persons for each module were included for data collection. In response to the distributed questionnaires, 78 RPs returned the questionnaire via email as well as snail mail. The responses are presented as under:

Table 4.74: The program was useful in enhancing the following skills

i) Communication Skills

Options	Frequency	Percent
Disagree	17	21.79
No Opinion	09	11.54
Agree	52	66.67
Total	78	100.0

In response to the statement 66.67% of the resource persons agreed that the PCEPT course contributed towards the development of communication skills of the university faculty. 21.79% disagreed with the statement.

The alpha value being fixed at 0.05, we can conclude that the confidence interval $\{66.67 \pm 1.96 \times 4.32(SE)\}$ i.e. $58.20 < 66.67 < 75.13$ was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 58.20 to 75.13.

Table 4.75:

ii) Skills in psychologically understanding students learning variations

Options	Frequency	Percent
Disagree	22	28.21
No Opinion	07	8.97
Agree	49	62.82
Total	78	100.0

In response to the statement 62.82% of the resource persons agreed that the PCEPT course contributed in enhancement of skills for psychologically understanding students learning variations. 28.21% disagreed with the statement.

The alpha value being fixed at 0.05, we can conclude that the confidence interval $\{62.82 \pm 1.96 \times 4.77(SE)\}$ i.e. $53.47 < 62.82 < 72.17$ was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 53.47 to 72.17.

Table 4.76:

iii) Skills in applying Modern Instructional Methodologies

Options	Frequency	Percent
Disagree	15	19.23
No Opinion	02	2.56
Agree	61	78.21
Total	78	100.0

In response to the statement 78.21% of the resource persons agreed that the PCEPT course contributed in enhancement of skills in application of modern instructional methodologies. 19.23% disagreed with the statement.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {78.21 ± 1.96 x 4.39(SE)} i.e. 69.60 < 78.21 < 86.81 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 69.60 to 86.81.

Table 4.77:

iv) Enhancing Academic Planning Skills

Options	Frequency	Percent
Disagree	28	35.90
No Opinion	08	10.25
Agree	42	53.85
Total	78	100.0

In response to the statement 53.85% of the resource persons agreed that the PCEPT course contributed in enhancement of academic planning skills of the university teachers. 35.90% disagreed with the statement.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {53.85 ± 1.96 x 4.98(SE)} i.e. 44.09 < 53.85 < 63.61 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 44.09 to 63.61.

Table 4.78:

v) Enhanced Time Management Skills of the Course Participants

Options	Frequency	Percent
Disagree	43	55.13
No Opinion	12	15.38
Agree	23	29.49
Total	78	100.0

In response to the statement 29.49% of the resource persons agreed that the PCEPT course contributed in time management skills of the participant faculty members. 55.13% disagreed with the statement. However 15.38% of the respondents remained neutral or didn't reply.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {29.49 ± 1.96 x 4.57(SE)} i.e. 20.53 < 29.49 < 38.44 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 20.53 to 38.44.

Table 4.79:

vi) Skills in Assessing Students Learning

Options	Frequency	Percent
Disagree	07	8.97
No Opinion	06	7.69
Agree	65	83.33
Total	78	100.0

In response to the statement 83.33% of the resource persons agreed that the PCEPT course contributed in enhancement of classroom assessment skills of the course respondents. 8.97% disagreed with the statement.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {83.33 ± 1.96 x 3.09 (SE)} i.e. 77.28 < 83.33 < 89.39 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 77.28 to 89.39.

Table 4.80:

vii) Enhancement of Research Skills

Options	Frequency	Percent
Disagree	34	43.59
No Opinion	08	10.26
Agree	36	46.15
Total	78	100.0

In response to the statement only 46.15% of the resource persons agreed that the PCEPT course contributed in enhancement of research skills. 43.59% disagreed with the statement.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {46.15 ● 1.96 x 4.06(SE)} i.e. 38.19 < 46.15 < 54.11 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 38.19 to 54.11.

Table 4.81: The number of sessions was enough according to the breadth and depth of the content

Options	Frequency	Percent
Disagree	48	61.54
No Opinion	05	6.41
Agree	25	32.05
Total	78	100.0

In response to the statement 32.05% of the resource persons agreed that the number of sessions for different modules were enough according to the breadth and depth of the content coverage. The majority of the respondents i.e. 61.54% disagreed with the statement.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {22.19 ± 1.96 x 5.03 (SE)} i.e. 22.19 < 32.05 < 41.91 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 22.19 to 41.91.

Table 4.82: The facilities provided in the Training Centre were Satisfactory

Options	Frequency	Percent
Disagree	22	28.21
No Opinion	01	1.28
Agree	55	70.51
Total	78	100.0

In response to the statement 70.51% of the resource persons agreed that adequate facilities were provided in the training Centre. On the other hand 28.21% disagreed with the statement.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {70.51 ± 1.96 x 5.05 (SE)} i.e.60.61 < 70.51 < 80.41 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 60.61 to 80.41.

Table 4.83: The required AV aids were provided in the training hall

Options	Frequency	Percent
Disagree	13	16.67
No Opinion	02	2.56
Agree	63	80.77
Total	78	100.0

In response to the statement 80.77% of the resource persons agreed that all the required audio-visual aids was made available in the training hall. 16.67% disagreed with the statement.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {80.77 ± 1.96 x 4.15 (SE)} i.e. 72.64 < 80.77 < 88.90 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 72.64 to 88.90.

Table 4.84: In-time management and coordination was made by the University Coordinator

Options	Frequency	Percent
Disagree	06	7.69
No Opinion	03	3.85
Agree	69	88.46
Total	78	100.0

In response to the statement 88.46% of the resource persons agreed that the university coordinators had very timely coordination with them as and when required. Only 7.69% disagreed with the statement.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {88.46 ± 1.96 x 2.95 (SE)} i.e. 82.68 < 88.46 < 94.24 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 82.68 to 94.24.

Table 4.85: The participants' selection was rightly made keeping in view the program objectives

Options	Frequency	Percent
Disagree	13	7.69
No Opinion	06	3.85
Agree	59	88.46
Total	78	100.0

In response to the statement 88.46% of the resource persons agreed that the participants' selection was rightly made for the program keeping in view the program objectives. While only 7.69% disagreed with the statement.

The alpha value being fixed at 0.05, we can conclude that the confidence interval {88.46 ± 1.96 x 4.02 (SE)} i.e. 67.76 < 88.46 < 83.52 was significant at 0.05 level. Thus it was determined that with the given percentages of response in agreed category, we were 95% sure that the confidence interval would range from 67.76 to 83.52.

Figure 4.17: Graphical Presentation of the Responses on Close Ended Questions from Resource Persons Questionnaire

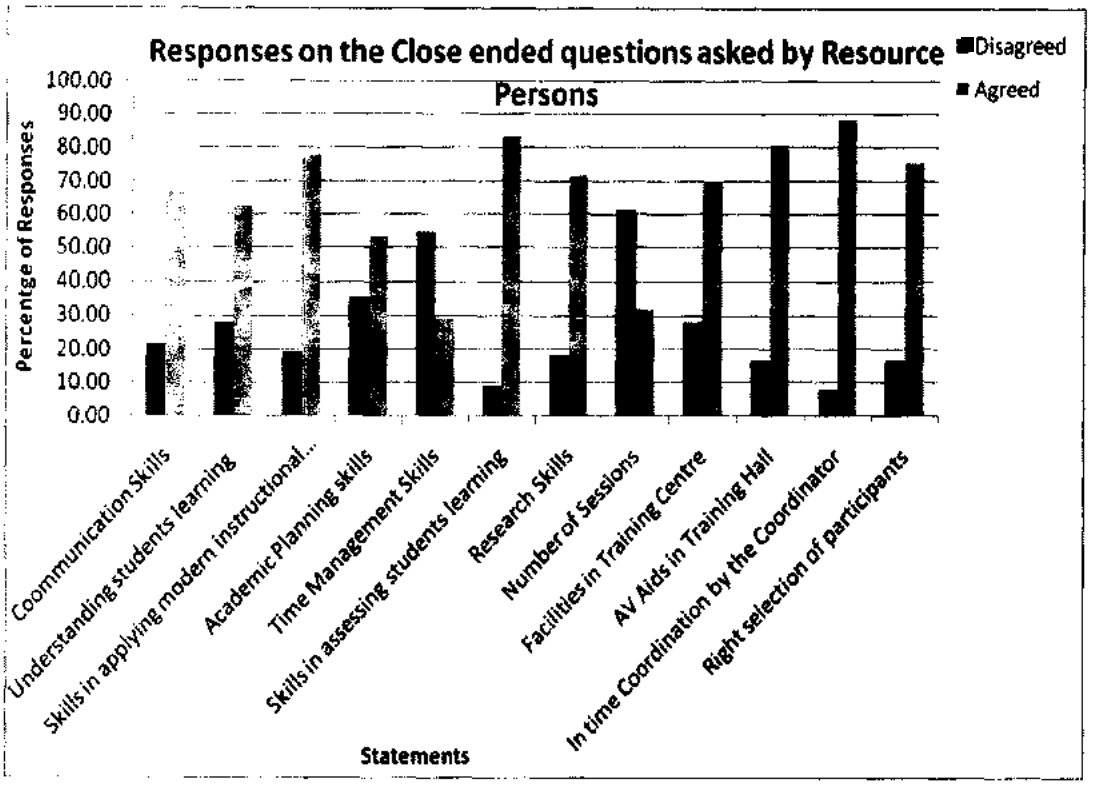
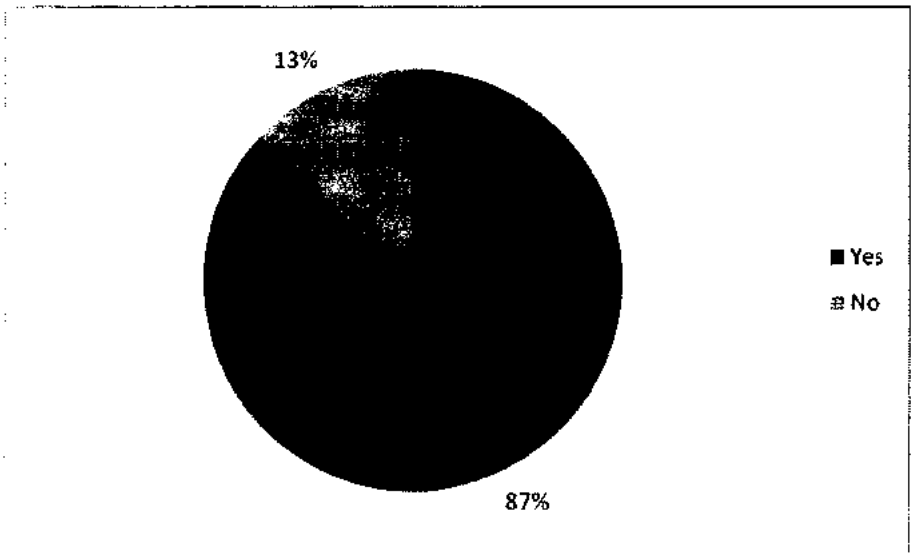


Figure 4.18: Graphical representation of the responses on question "Do you think that this course will be helpful for the participants in day-to-day teaching?"



Analysis of Open Ended Questions

In response to the giving the reasons of non-usefulness of the program, the resource persons were of the view that the course had less practical orientation and more theoretical focus. Some of the respondents gave the reason that the actual classroom situation differs so much to the situation portrayed in the training hall. Every day is a new day for teaching when it comes to actual teaching.

In response to the question regarding overlapping topics; resource persons were of the view that some topics in module Andragogical skills and communication skills were overlapping (n=17). Some were of the view that the topics in the modules academic planning and management and Andragogical skills were overlapping (n=21). There could be some points of repetition like lesson planning and time management skills that may be repeated Some were of the view that learning needs and outcomes was repeated two to three times in different modules (n=8).

Table 4.86: Do you think that the duration of the program was:

Options	Frequency	Percent
Too short	35	44.87
Too Long	12	15.38
Adequate	31	39.74
Total	78	100.0

In response to the question regarding the duration of program, 45 percent respondents were of the view that the duration is too short for covering the breadth and depth of the content that is included in the course. How 40 percent respondents said it is adequate according to the content of the PCEPT course.

Comparison of the responses of Faculty members and Resource Persons:

If we compare the responses of resource persons and participating faculty members it can be analyzed that the best module according to participants was Learner's Psychology but resource persons considered the assessment component as most effective in enhancing assessment skills of the university faculty. However the resource person rated the module on Learner Psychology on average.

The resource persons rated the module Andragogical skills as the second most effective module and they rated it due to the success of the microteaching component but faculty members rated the content of the module not so much effective. However almost all participants rated the microteaching component as best part of the entire program. So microteaching rating was commonly high amongst faculty members and resource persons of the PCEPT program.

The holistic analysis revealed that there were not very similar responses from the resource persons and participating faculty members over the quality of the content or usability of the training modules. Keeping in view the larger sample size we

assume the responses of participants as more reliable over the resource person's responses. There was a smaller sample size of the resource persons and not all resource persons, included in the sample, were teaching all the modules in the universities. Some were taking sessions on teaching as profession module, some were taking sessions on communication skills etc based on their expertise. So the sample of resource persons teaching directly a particular module was very less, as compared to the larger sample of faculty member i.e. 790 who attended sessions on all the seven modules.

4.6 Percentage of Faculty trained in different Academic Disciplines'

In order to analyze the percentage of faculty members trained in different academic disciplines, through the one month intensive in-service PCEPT courses conducted at the doorsteps of 51 public sector universities, the database of the participants was compiled having the following information:

{Name; Institution's name; Department; Telephone number (mobile and office); Email address}. The information about the department was used to analyze the number of faculty trained in each discipline through PCEPT courses.

Table 4.87: Discipline Based Analysis of the Faculty Members Trained (Year 2008-11)

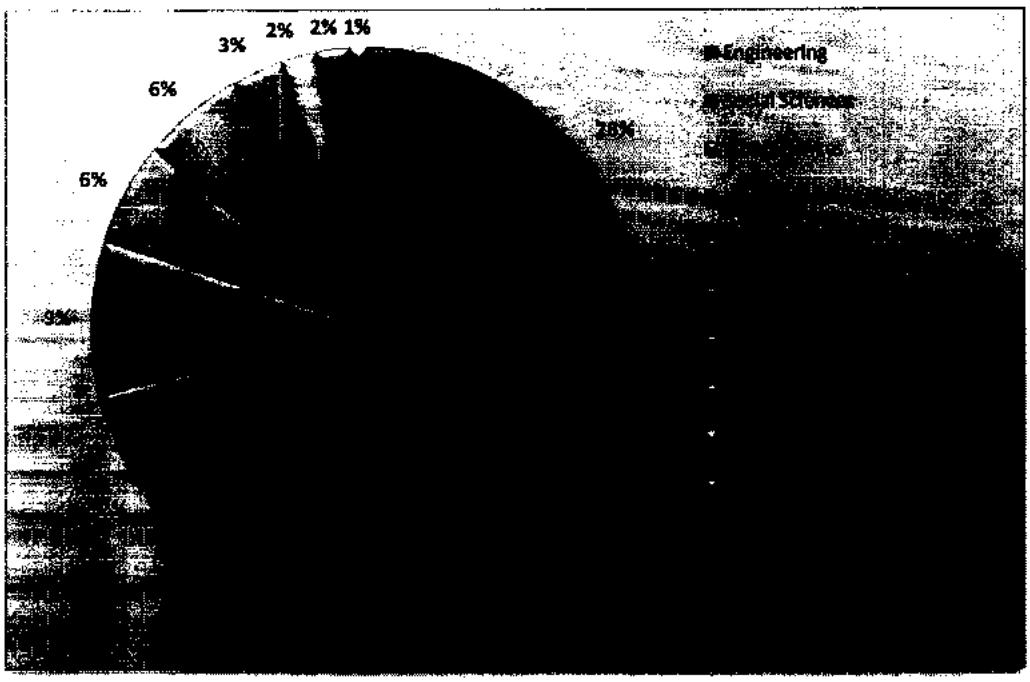
S. No	Discipline	Number of Faculty Trained	Percentage
1	Engineering	441	28%
2	Social Sciences	288	18%
3	Pure Sciences	198	13%
4	Management Sciences and Computer Sciences	189	12%
5	Medical Sciences	143	09%
6	Languages and Literature	97	06%
7	Humanities	102	06%
8	Agriculture Sciences	46	03%
9	Veterinary and Animal Sciences	30	02%
10	Library Sciences	24	02%
11	Law	18	01%
	Total	**1577**	**100**

The results of the discipline based analysis show that 441 faculty members were trained from the Engineering discipline which makes up the percentage distribution of 28% out of total figure. The second highest figure was from the discipline of Social Sciences which was 288 in total; this figure represents 18% of the total distribution. 13% were from the Pure Sciences which is the third highest category in discipline based analysis.

12% representation was from the Management Sciences/Computer Sciences disciplines; 09% of the total trained figure, that becomes 143 faculty members, represented Medical Sciences. Humanities and Languages/Literature represented 6% of the total distribution with the training of 102 and 97 faculty members respectively.

In total 46 faculty members were trained from the discipline of Agriculture Sciences; 30 faculty members making up the percentage of 2% were from the Veterinary and Animal Sciences discipline. 24 faculty members were from the discipline of Library Sciences and only 18 faculty members were from the Law discipline.

Figure 4.19: Representation of the Faculty Members Trained from various Academic Disciplines



From the overall analysis of the discipline based distribution, it is evident that Engineering discipline has got the highest percentage of PCEPT training which was conducted at the doorstep of the universities' across Pakistan. The apparent reason behind this highest percentage was that in the total population of 33 universities in which PCEPT course was conducted; 06 universities were Engineering and Technology specialized, obviously the maximum number of the faculty members trained in these universities would be from Engineering departments. Social Sciences is rated at 2nd level, the third highest representation of faculty members was from Pure Sciences. The lowest representation was from the disciplines of Law and Library Sciences.

CHAPTER FIVE

SUMMARY, FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

Teacher training has generally been an ignored area especially at higher education level in Pakistan. Up to the recent past, there has been no formal mechanism for the training of teachers inducted at university level in our country. The ignorance in this field resultantly led to deterioration in quality of educational system. In the absence of any formal pre-service mechanism for the university teachers, Higher Education Commission appreciated the need and launched the project National Academy of Higher Education (NAHE) for the professional skills enhancement of the university faculty members. NAHE project conducted one month in-service Professional Competency Enhancement Program for Teachers (PCEPT) trainings during the year 2009-2011, which were offered at the doorsteps of the universities for all faculty members irrespective of their disciplines. The major objective of PCEPT course was to equip the university faculty members with the state of the art tools and techniques required for imparting instruction at higher education level.

The financial, administrative and academic expertise was extended to 51 universities all over the Pakistan through PCEPT (NAHE) project. In total 1577 faculty members were trained through this one month intensive in-service program. The present study is focused on the analysis of the implementation status of the PCEPT courses. The objectives of the study was to bring improvement in the quality

of this wide scope training program offered for the higher education faculty from the forum of Higher Education Commission. A country-wide survey was conducted with the thread-bare analysis on the following parameters/objectives to assess: the academic quality of the program in relation to the objectives of the trainings; usefulness of the modules used in the trainings; quality of the resource persons engaged in during the trainings, quality of logistic services provided to the participants and resource persons, problems faced by the faculty members due to their participation in the training programs, problems faced by the coordinators of the program, and discipline wise percentage analysis of the trained participants.

The results of the study will be helpful for the management of National Academy of Higher Education as they would be able to pinpoint the deficiencies of the program related to each of the stakeholders involved in the planning stage of training and these will be rectified before the launch of program in next phase. The study was delimited to only the opinions of the participating faculty members, resource persons and coordinators of the programs. The opinion of the peers, departmental heads and students could not be covered in the study.

The population of the study consisted of 1577 faculty members trained through 51 PCEPT Courses conducted across the country. The sample consisted of 790 faculty members selected using Systematic Stratified Random Sampling Technique having representation from all the provinces. 100 Resource Persons were selected using Random Sampling Technique and 30 Course Coordinators were selected using simple random sampling technique. So in total sample size was 920. Three questionnaires were used for the purpose of data collection. One questionnaire was developed for taking the opinions of the faculty members/participants of the training programs; second questionnaire was developed for the Resource Persons for

having their opinion as facilitators of various groups and third type of questionnaire was developed for the Course Coordinators of the programs who were nominated by the universities for smooth organization of the program.

The findings of the study revealed that with respect to academic quality or usefulness of the modules, except Research Methods and Skills, all the modules were rated in above average category. Regarding the quality of resource persons the best resource persons were available for the module Learner's Psychology and Academic Planning and Management. However for the module Research Methods and Skills the quality of resource persons was not up to the mark. Regarding the problems faced by the course participants, lack of any reward or visible recognition for attending the course and attitudes of Heads of Departments was the highest rated problem. Accommodation arrangements and absence of full time commitment during the course was the lowest rated problem as reported by the respondents. According to the coordinators, accounts clearance by the Resident Auditors of the universities and Handling the accounts related matters of the program was the most problematic area in the coordination of the PCEPT courses. Least problematic areas were timely start of session and accommodation for the resource persons.

According to the resource person the best training component was assessment of the students and efficient coordination by the coordinators and the troublesome areas were number of sessions keeping in view the breadth and depth of the content. The results revealed that the highest percentage representation was from the discipline of Engineering and then Social Sciences while the lowest represented fields were Law and Library sciences. The reason may be due to less number of faculty inductions in these fields.

Based on the data the recommendations proposed by the researcher were emphasized on offering the training programs relevant to the individual subject related requirements of the participants. The modules of the program may be reviewed and the financial resource allocation may be increased for the training program. The program should be made compulsory for the new inductees as well as existing teachers serving in the system and any sort of rewards may be attached to the training.

5.2 Findings

The findings of the study were:

1. Participants' understanding of the role of teaching profession was enhanced. The value of chi-square (x^2 =197.156) was significant at ∂ = 0.05. (Table 4.01)
2. The faculty members learned professional ethics and moral values from the module Teaching as Profession. The value of chi-square (x^2 =328.395) was significant at ∂ = 0.05. (Table 4.02)
3. Participants learned the intellectual roles and responsibilities expected from them. The value of chi-square (x^2 =653.233) was significant at ∂ = 0.05. (Table 4.03)
4. The faculty members learned to realize their roles as agents of social change. The value of chi-square (x^2 =380.268) was significant at ∂ = 0.05. (Table 4.04)
5. Participants learned to develop professional networking in conferences, seminars and workshops. The value of chi-square (x^2 =238.706) was significant at ∂ = 0.05. (Table 4.05)

6. Course participants learned the strategies for short and long term planning. The value of chi-square (x^2 =505.127) was significant at ∂ = 0.05. (Table 4.08)
7. Participants learned modern classroom management techniques through this course. The value of chi-square (x^2 =110.91) was significant at ∂ = 0.05. (Table 4.09)
8. The course enhanced participants' knowledge about the identification of instructional strategies in accordance with the learning outcomes. The value of chi-square (x^2 =255.616) was significant at ∂ = 0.05. (Table 4.14)
9. Participants learned the variety of tests and their particular importance in assessing students learning. The value of chi-square (x^2 =880.51) was significant at ∂ = 0.05. (Table 4.15)
10. The faculty members learned how students can monitor their learning and keep track of their progress. The value of chi-square (x^2 =260.372) was significant at ∂ = 0.05. (Table 4.18)
11. Participants gained understanding about the emotional and behavioral difficulties that hinder students learning. The value of chi-square (x^2 =500.112) was significant at ∂ = 0.05. (Table 4.21)
12. PCEPT course participants learned the techniques of guidance and counseling the students. The value of chi-square (x^2 =392.700) was significant at ∂ = 0.05. (Table 4.22)
13. The faculty members learned to conceptualize the learning theories and their impact in the teaching. The value of chi-square (x^2 =105.496) was significant at ∂ = 0.05. (Table 4.25)

14. Majority of the participants were of the view that they learned their strengths and weaknesses through micro teaching sessions. The value of chi-square (χ^2 =1248.046) was significant at ∂ = 0.05. (Table 4.29)
15. The faculty members learned different communication handling mechanisms through this course. The value of chi-square (χ^2 =489.055) was significant at ∂ = 0.05. (Table 4.34)
16. Participants learned different types of researches relevant tot their own discipline. The value of chi-square (χ^2 =600.628) was significant at ∂ = 0.05. (Table 4.36)
17. Regarding the usefulness of the modules, Module on Learner's Psychology was highest rated in quality among other seven modules with the mean percentage of 69%.
18. Academic Planning and Management was the second top rated or favorite module as reported by the program participants having the average percentage of 68%.
19. The third most liked module was Teaching as a Profession which has been usually taught as first module in the schedule with the mean percentage 64.8%.
20. The module on Communication Skills stood fourth among seven as per respondents ratings and its average percentage remained 58.9%.
21. Andragogical skills module was rated fifth with the mean percentage of 58%.
22. The module on Curriculum Development, Assessment and Evaluation got second last number with the mean percentage of 53.4%.
23. The least rated module was Research Methods and Skills which got the mean percentage of 40.05%.

24. Regarding the quality of resource persons engaged in during the program, the best resource person were available for the module Learners' Psychology, in which 63% marked the highest range that was above 70-90 range.
25. The second best resource persons were available for the module Academic Planning and Management in which 34% respondents' marked the highest range that was above 70-90 range.
26. The third best resource persons were available for the module teaching as a Profession in which 21% respondents' marked the highest rated category i.e. between 70-90 and 47% categorized them above average range i.e. 50-69.
27. The least rated resource persons were available for the module Research Methods and Skills getting only 7% in the range 70-90 and 34% respondents rated the resource person as below 30% in range.
28. Regarding the problems faced the course participants', lack of reward or any sort of visible recognition for attending the course was the highest rated problem. (88%).
29. Faculty is overloaded with too many responsibilities even during the course. (79%)
30. Attitudes of Head of Department of parent institutions were problematic. (77%)
31. Clearance of Accounts by the University Resident Auditors was the highest rated problem as reported by the Course Coordinators of the program. (93%)
32. Handling accounts of the entire program was difficult to manage. (73%)
33. Call for nominations or gathering a group of 35 faculty members for 24 days was difficult. (67%)
34. Honorarium for lectures was insufficient for the resource persons keeping in view their experience and expertise. (97%)

35. In time coordination by the Course Coordinator was the best feature of the program as reported by the Resource Persons. (88%)
36. Training halls were well equipped with the desired audio-visual aids. (80%)
37. According to the views of Resource Persons PCEPT course helped participants in learning students assessment skills. (83%)
38. The course was useful in learning the skills applied in modern instructional techniques. (78%)
39. The highest discipline-wise representation was from the Engineering field having 24% respondents out of the total trained figure.
40. Social sciences represented 21% participation in the total figure.

5.3 Discussion

The present study was conducted to analyze the implementation status of the in-service teachers training program named Professional Competency Enhancement Program for Teachers (PCEPT) conducted by Higher Education Commission at the doorsteps of universities during the period 2009-2011. The research was conducted to analyze the academic quality of the modules; the problems faced by the course coordinators and participants of the programs; discipline-wise percentage of faculty members trained etc.

The research findings revealed that majority of the respondents' pointed out the effectiveness of this teachers training program because this program provided them exposure to the world of teaching and broadened their horizon which will be helpful for them in changing their attitudes, perceptions and skills related to their work. Moreover the exposure has provided them with a kind of scaffolding techniques in bridging the gap between their knowledge level and knowledge level of their

students. In this way, findings of this study were in line with several other researches undertaken in the area of training. Mtweta, (2000) also pointed out the criteria of the effective training program as on-the-job professional development programs attempt to bridge this gap by allowing teachers to develop new vision that will enrich their teaching experience (Mtetwa and Thompson, 2000), update and enhance their teaching skills and practices (Desimone, Porter, Garet, Yoon, and Birman, 2002), change their perceptions, belief and attitudes (Guskey, 2002) and bring about improvements in their teaching style and in return their students' academic achievements (Blandford, 2000).

Majority of the respondents' pointed out that instead of mixed group with representation from various disciplines, subject specific groups should be formed which will help in learning more about their subject relevant techniques of teaching, research and assessments etc. based on shared vision and common problems the homogenous group would be more receptive and focused towards learning. This philosophy is also agreed upon by various researchers who have worked in this area like Garet et.al. (2001) in their study of the usefulness of professional development, provided a list of advantages in conducting the training for groups of teachers from the same discipline and same subjects. The major advantage of the homogeneous group is the opportunity for teachers to discuss problems and issues that come up during their training experiences, sharing common curriculum materials and assessment requirements, discussing students' subject specific needs across classes and grade levels, and building up a shared professional culture in which teachers "develop a common understanding of instructional goals, methods, problems, and solutions" (p. 922).

Regarding the problems faced by the course coordinators of the program some coordinators pointed out that they faced the problem of less allocation of finances in the subheads of the training program. They received complaints from the resource persons regarding the amount of remuneration resource persons were paid. Keeping in view the high inflation, the problem was very genuine. Moreover another problem which some of the coordinators faced was that they didn't receive the funding in their own hands, and for meeting day to day expenses of the training like refreshments, remuneration to the resource persons stationary and photocopies, they had to look up for the Treasurer offices of the universities, this procedural delay created hurdles in timely payments to different vendors/service providers. This is a research based fact that more the resources the allocated for a training program, better the organization of the program would be. One organizational factor which effects the organizers satisfaction with instructional development programs may be related to the degree of control he/she has over the design and implementation of the processes (Edmonds and Lee, 2002; Gercenshtein, Fogelman, and Yaphe, 2002), and processes are greatly determined by the way financial resources for these programs are allocated to the institution.

Some coordinators gave a solution that instead of imposing a uniform formula for the allocation of funding, universities may be provided an option to develop the financial block for the training program according to their own requirements and submit the plan to Higher Education Commission for the release of funds. This procedure will take into account the geographical differences of the universities and corresponding financial requirements. For example the problem of hiring outstation resource person was one of the most overwhelming problems faced by the coordinators due to financial constraints. In the far flung areas like Uthal, Khuzdar

and Larkana etc the required expertise were not available in the neighboring universities so the resource persons were to be hired from capital or big cities like Lahore Karachi etc. this hiring cost their air fare to reach at the venue and resultantly the cost overall exceeded the amount allocated for the particular subhead of "TA/DA to outstation Resource Persons". So if budgeting was done by the university itself, this problem would have been kept in mind during financial planning.

The research regarding the funds allocation for training shows that allocation of resources for professional development programs can take both form i.e. direct or indirect (Nir, 2003). In case of direct allocation of resources institutions are given option to design the program themselves from selection of the experts to financial requirements that best fit individual institutional needs, built-in the plan. This strategy allows, through the reallocation of resources and combining funding sources, increasing funds for professional development, which may help to form a coherent professional development strategy (Elmore and Burney (1996) and Elmore and Burney (1999, March); Garet et al., (2001). Indirect allocation of resources mean that resources are transferred from the centrally governing body like HEC o the decentralized units like universities. Under these circumstances, resources may not be allocated according to the institutional needs and preferences, and that's why seems irrelevant to the contextual requirements and real educational consequences. (Yair, 2005, p. 298).

Results of this study show that most of the respondents rated the module "Learner's Psychology" as top module among seven because of the fact that it helped the participants in knowing about the psychological needs of the students as adult learners. This evidence is also supported in a number of research studies which report

that the more students' knowledge teachers have, the higher the levels of student achievement (Falk, 2001; Grosso de Leon, 2001; Tatto, 1999).

5.4 Conclusions

The present study was conducted to analyze the implementation status of Professional Competency Enhancement Program for Teachers (PCEPT) which is conducted by Higher Education Commission at the doorstep of universities. The study used questionnaires and document analysis as a means of data collection. The results of the study are concluded below:

1. The analysis of the academic quality of the program revealed that the module on Learners Psychology and Academic Planning and Management were the best rated modules however the module on Research Methods and Skills was not very useful for all the groups of the faculty members except Social Sciences. So it needs thorough revision.
2. Regarding the quality of the resource person engaged in during the program, it can be concluded that for most of the modules the resource persons were of average quality, except Research Method and Skills for which they were of extremely low quality.
3. From the analysis of the problems faced by the Course Coordinators of the programs it can be concluded that coordinators faced major problems in accounts handling of the program and gathering nominations for the course. Proper mechanism is required for reducing the intensity of this problem.
4. From the analysis of problems faced by the participants it can be concluded that respondents considered it difficult to implement their innovative ideas in the existing university setup and attitude of seniors is main hurdle coming in

between bringing change. So this situation calls for the training of heads of departments and senior administrators as well besides teachers training.

5. Regarding any sort of inclusion or exclusion in the program package it can be concluded that Curriculum Development part needs less time allocation and the second part of the same module assessment and evaluation requires more time in session allocation. Moreover Micro-teaching was the most favorite component of the training.
6. Regarding the usefulness of the training modules from the perspectives of resource persons it can be concluded that the content regarding learning of time management skills and research methods skills was not sufficient for learning needs of university faculty members. So these modules need up-gradation and review.
7. Regarding the discipline based analysis it can be concluded that the highest percentage of the faculty members were trained in Engineering discipline. Humanities were a bit ignored area as compared with others. So a proportionate representation of all disciplines needs to be ensured in training.

5.5 Recommendations

Keeping in view the results/objectives of the study, following recommendations are proposed:

1. One month generic skills enhancement program may be made mandatory for all the newly inducted faculty members at higher education institutions. For this purpose a committee of experts may be constituted to develop a framework for in service training as well as pre service training be made as permanent feature of the university teaching.

Objective 01: To analyze the effectiveness of the modules included in the training package.

2. The module on "Research Methods and Skills" may be revised and contents must be added to address the needs of disciplines other than social sciences also. The module development team may be involved in this revision process to work upon the recommendations of the participants as well as general up-gradation of contents.
3. Module on Basic English Language competencies and academic writing skills may also be added for bringing improvement in participants' written expression.
4. Information and Communication Technology module may also be added in the course package. This module may be developed in collaboration with Microsoft in order to provide the faculty members a comprehensive package on ICT.

5. The sessions on Microteaching may be increased and it is highly recommended to have a pre and post analysis of participants teaching skills.
6. The teaching/demonstrating techniques for lab sessions may also be incorporated in the training program either in the form of module, booklet, manual or presentation.
7. The modules may be reviewed and updated keeping in view the changes taken place in the world of knowledge during the last three years.
8. The duration of the program may be increased from four weeks to six weeks.

Objective 02: To evaluate the quality of resource persons engaged in teaching different modules of the training

9. A pool of expert trainers may be built in order to bring improvement in the quality of delivery of the resource material. This pool of expertise may be developed through "call for resource persons" announcement. After having applications shortlisted candidates may be interviewed through video conferencing from all over the Pakistan.
10. A transparent criterion should be made for the selection of the resource persons across different fields.

Objective 03: To identify the problems faced by the faculty members due to their participation in the Professional Competency Enhancement Program

11. In order to ensure fulltime presence of the participants, the program may be organized off campus at any central location where participating faculty members could easily reach but remain detached from their workplaces for the whole duration of the training.

Objective 04: To explore the problem areas from the perspective of Course Coordinators of the program and the Resource Persons

12. In case of the training of existing faculty members, the departmental heads may be informed three months prior to course commencement, so that s/he can easily nominate and spare any faculty members from his/her department.
13. Funds for the training program may be increased in all the subheads. The project PC-1 may be revised and appropriate allocation with in the subheads of expenditure may be made.
14. Proper monitoring mechanism should be devised for having distant and physical monitoring of the training program.
15. The training program may be made permanent activity of HEC and for that purpose funding must be shifted from 'Development Budget' to 'Recurring Budget' of Higher Education Commission.

Objective 05: To explore the quality of logistics of the program from the perspective of the participating faculty members and resource persons.

16. Higher Education commission may provide the seed money to the universities where the training centers are not established, so that a well equipped training hall may be in place for conducting the training sessions in the universities.

Objective 06: To conduct a discipline based figurative analysis of the participants trained under the PCEPT course.

17. The Engineering discipline is rapidly increasing in the universities and in the training program understudy the highest percentage was also from

Engineering, so it is highly recommended to include the training content/presentations for the subject specific requirements of the field.

Limitations of the research:

18. All research studies have some limitations. This study has the following limitations:

- The first limitation is relevant to the nature of self report data. In order to save time and get maximum responses from the participants, the Likert scale has been used on five points. It didn't thoroughly cover the respondents' perceptions and feelings over some particular aspects of the course in open ended format. However general suggestions section was added at the end of each section.
- Another limitation was there were no follow-up interviews or any follow up study to explore the impact of this training program in actual classroom situation. This could have been studied through observations of the classroom, students feedback and peer review etc.
- Another limitation of the study was the lack of demographic data analysis of the respondents of the study. The opinions of the respondents on different segments of the programs have been explored but the gender based comparison and satisfaction level, or qualification wise opinions have not been sorted.

19. The **future researchers** may take up many other dimensions of the same research which have not been covered in this study like:

- Training needs analysis of all faculty members across the country may be conducted in order to devise the content of the training and weightage required for each module.

- The direct impact of the training program may be studied through observation of actual classroom sessions of the participating faculty member after the completion of his/her training.
- Pre-Training and Post Training students' assessments may be analyzed to study the effect of training program.

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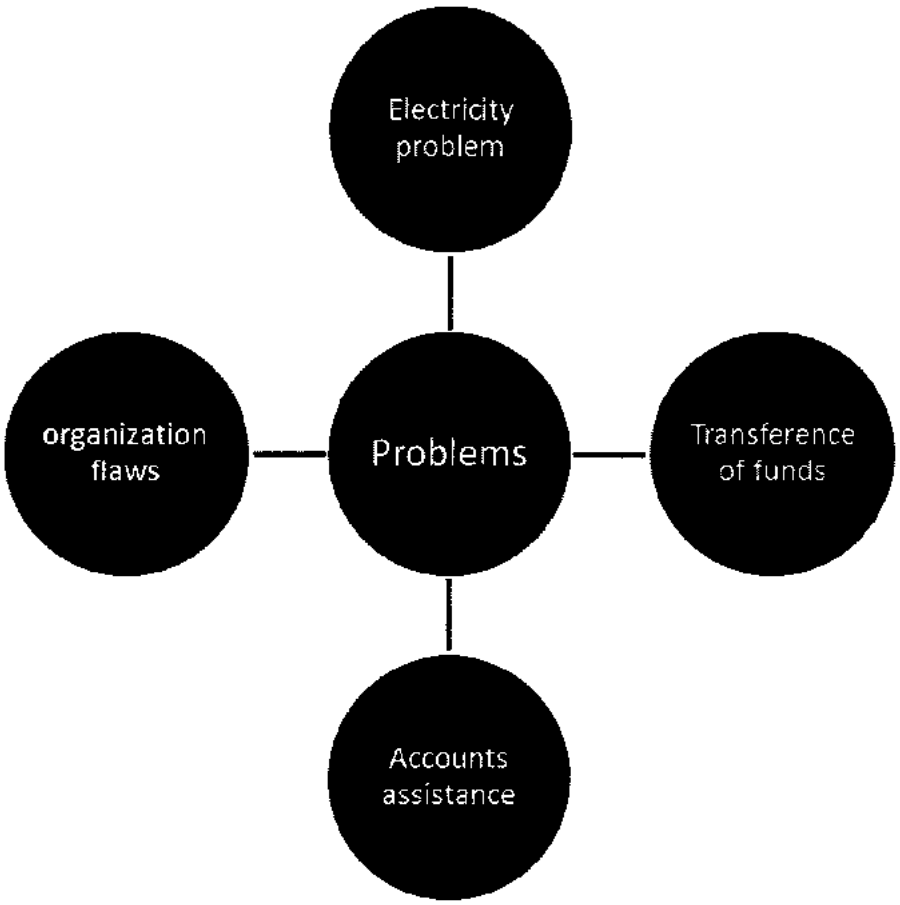
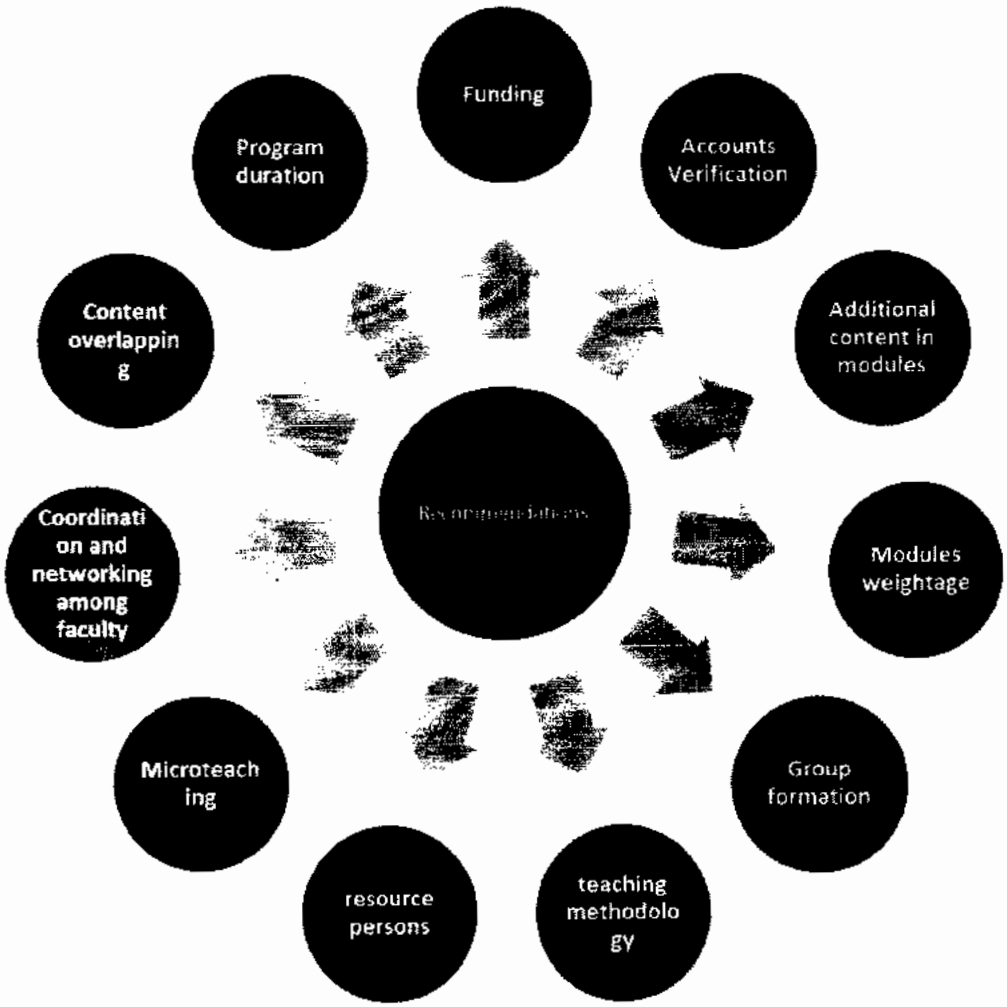
Annexure "A"

Open Ended Questions (Broader Response clustering)

1. Other Problems:



2. Recommendations



Annexure "B"

List of Universities in which one month PCEPT Courses were conducted under the project NAHE, Phase-II

S.No	University	
1.	NED, UET, Karachi	32
2.	University of Malakand, Chakdara-Dir	35
3.	GC University, Faisalabad	27
4.	University of Engineering and Technology, Taxila	23
5.	National Textile University, Faisalabad	30
6.	Khyber Medical University, Peshawar	26
7.	Allama Iqbal Open University, Islamabad	29
8.	University of Education, Lahore	27
9.	Federal Urdu University of Arts, Sciences and Technology, Islamabad	27
10.	DOW University of Medical and Health Sciences, Karachi	35
11.	University of Swat	29
12.	Bahria University, Karachi, Campus	35
13.	University of Peshawar, Peshawar	23
14.	Kinnaird College for Women, Lahore	35
15.	Quaid –e-Awan University of Engineering, Science and Technology, Nawabshah	30
16.	National University of Modern Languages (NUML), Islamabad	29
17.	Baluchistan University of Information Technology and Management Sciences, Quetta	24
18.	University of Engineering and Technology Lahore	28
19.	University of Veterinary and Animal Sciences, Lahore	30
20.	COMSATS Institute of Information Technology	31
21.	Lasbela University of Water and Marine Sciences, Uthal	34
22.	Frontier Women University, Peshawar	30
23.	Pakistan Institute of Applied Sciences, Islamabad	24
24.	NWFP University of Engineering and Technology, Peshawar	34
25.	Sindh Agriculture University, Tandojam	35
26.	Gomal University, Dera Ismail Khan	34
27.	Mehran University of Engineering and Technology, Jamshoro	24
28.	University of Sargodha, Sargodha	32
29.	Hazara University, Mansehra	30
30.	Bahria University, Islamabad	35
31.	International Islamic University, Islamabad	26
32.	Kohat University of Science and Technology, Kohat	33
33.	University of the Punjab, Lahore	29

34.	University of Gujrat, Gujrat	**32**
35.	Sardar Bahadur Khan University, Quetta	**27**
36.	Baluchistan University of Engineering and Technology, Khuzdar	**28**
37.	Bahauddin Zakariya University, Multan	**40**
38.	University of Science and Technology, Bannu	**35**
39.	GC University, Lahore	**31**
40.	Liaquat University of Medical and Health Sciences, Jamshoro	**31**
41.	University of Karachi, Karachi	**35**
42.	University of Health Sciences, Lahore	**35**
43.	University of Azad Jammu and Kashmir	**31**
44.	Islamia University, Bahawalpur	**30**
45.	University of Baluchistan, Quetta	**28**
46.	National University of Science and Technology, Islamabad	**26**
47.	University of Arid Agriculture, Rawalpindi	**35**
48.	University of Sindh, Hyderabad	**35**
49.	Lahore College for Women University, Lahore	**35**
50.	University of Agriculture, Faisalabad	**35**
51.	NWFP Agriculture University, Peshawar	**43**

Annexure "C"

QUESTIONNAIRE FOR PCEPT COURSE PARTICIPANTS

Study Title: **Professional Competency Enhancement Program for Teachers (PCEPT) conducted by Higher Education Commission: An Evaluation**

Name (optional): ---------- **Institution:** ----------

Qualification: ---------- **Experience:** ----------

Faculty/Department: ---------- **Designation:** ----------

Section A: **Academic Quality of the PCEPT Programs implemented at public sector universities of Pakistan**

Encircle the number that best describes the extent to which the content of PCEPT Course assisted in learning/applying the following statements. **5 = very high extent; 4 = high extent; 3 = uncertain; 2 = low extent; 1= very low extent.**						
TEACHING AS A PROFESSION						
1.	Gained understanding of role of the teaching profession in the system of higher education.	5	4	3	2	1
2.	Learned to apply professional ethics and moral values in your teaching.	5	4	3	2	1
3.	Learned the intellectual roles and responsibilities of university teachers.	5	4	3	2	1
4.	Learned to identify teachers' roles as an agent of social change.	5	4	3	2	1
5.	Learned to develop professional networking and collaboration for knowledge sharing in conferences, seminars and workshops.	5	4	3	2	1
ACADEMIC PLANNING AND MANAGEMENT						
6.	Learned to apply Academic Planning and Management strategies to your work.	5	4	3	2	1
7.	Learned to apply strategies of short term (daily,) planning of time.	5	4	3	2	1
8.	Learned to apply strategies of long term (monthly, semester) planning of your time.	5	4	3	2	1
9.	Learned modern classroom management techniques for handling adults	5	4	3	2	1
10.	Learned how to develop positive attitudes towards inclusive classroom environments for students with different backgrounds.	5	4	3	2	1
11.	Learned the strategies of planning and management of a research project.	5	4	3	2	1
CURRICULUM DEVELOPMENT, ASSESSMENT AND EVALUATION						
12.	Learned to use a model of curriculum to assess the strengths and weaknesses of your own Syllabi.	5	4	3	2	1
13.	Learned to select content in accordance with the expected learning outcomes.	5	4	3	2	1

14.	Learned to identify instructional strategies relating to learning out comes.	5	4	3	2	1
15.	Learned the importance of variety of tests to assess student's academic performance.	5	4	3	2	1
16.	Learned to represent the ability level of the students in numbers and letters.	5	4	3	2	1
17.	Explored how to prepare students for different professions/roles using the multiple intelligence theory.	5	4	3	2	1
18.	Learned to explore ways for students to self-monitor their learning.	5	4	3	2	1
	LEARNERS' PSYCHOLOGY					
19.	Explored different techniques to raise the motivational level of the learners.	5	4	3	2	1
20.	Learned to apply good teaching principles in your teaching.	5	4	3	2	1
21.	Learned to identify emotional / behavioral difficulties which hinder learning process of students	5	4	3	2	1
22.	Learned the techniques of guiding and counseling the adults.	5	4	3	2	1
23.	Learned the techniques of stress management.	5	4	3	2	1
	ANDRAGOGICAL SKILLS					
24.	Learned to differentiate between teachers centered and student centered teaching.	5	4	3	2	1
25.	Learned to conceptualize learning theories and their impact on effective classroom teaching.	5	4	3	2	1
26.	Learned to apply the principles of learning and learning styles in your classroom Teaching.	5	4	3	2	1
27.	Explored the effective use of different teaching strategies.	5	4	3	2	1
28.	Explored how students can use their prior knowledge and experience in learning the material.	5	4	3	2	1
29.	Explored the strengths and weaknesses through microteaching session	5	4	3	2	1
	COMMUNICATION SKILLS					
30.	Learned to identify and handle barriers to effective communication.	5	4	3	2	1
31.	Learned the importance and role of personality in communication in an academic context.	5	4	3	2	1
32.	Learned to compare one's own communication styles with those of others	5	4	3	2	1
33.	Explored different personality based communication styles.	5	4	3	2	1
34.	Learned to apply different communication handling mechanisms as per the situation demands.	5	4	3	2	1
35.	Learned to use non-verbal communication gestures for effective communication.	5	4	3	2	1
	RESEARCH METHODS AND SKILLS					
36.	Learned different types of researches relevant to your disciplines.	5	4	3	2	1
37.	Gained understanding of the ethics involved in conducting research.	5	4	3	2	1

38.	Explored different research designs and their functions.	5	4	3	2	1
39.	Learned to formulate a research statement.	5	4	3	2	1
40.	Learned to formulate research questions.	5	4	3	2	1
41.	Learned to apply procedures involved in different sampling techniques.	5	4	3	2	1
42.	Learned the procedure for the construction of different research tools.	5	4	3	2	1
43.	Learned the techniques of qualitative data analysis process.	5	4	3	2	1
44.	Learned the techniques of quantitative data analysis process.	5	4	3	2	1
45.	Learned to perform your role as a supervisor at different stages.	5	4	3	2	1

46. The program included seven modules. Which of the modules you think:

- Should be excluded ----------
- Should be reduced ----------
- Should be given more emphasis ----------
- Should remain as is it ----------

Quality of Resource Persons engaged in PCEPT Program

47. Rate the quality of content delivery by resource persons against each of the following modules:

Modules	Quality Range		
	Below 30-50	51-70	71-90 and above
Teaching as a Profession			
Academic Planning and Management			
Curriculum Development, Assessment and Evaluation			
Learners' Psychology			
Andragogical Skills			
Micro-Teaching			
Communication Skills			
Research Methods sand Skills			

48. List **three significant changes in your teaching practice** that have resulted from your participation in the PCEPT program.

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49. Do you think that the **PCEPT Course** was:

Complex	5	4	3	2	1	Simple
Too short	5	4	3	2	1	Too Long
Interesting	5	4	3	2	1	Boring
Relevant	5	4	3	2	1	Irrelevant
Give a sense of accomplishment	5	4	3	2	1	Endless

50. Any **recommendations'** for the betterment of future training programs?

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51. Imagine you are asked to run the course next year. What **one** change would you introduce?

Section B: To what extent do you agree with the below mentioned problems related to your participation in the PCEPT Training Program held at Public Sector universities of Pakistan:

Use the following scale to answer the questions. In the left-hand spaces, please encircle number that corresponds to your opinions for each of the following questions. **5 = Strongly Agree; 4 = Agree; 3 = uncertain; 2 = Disagree; 1= Strongly Disagree.**						
1.	Faculty members were often overwhelmed with all that was being required of them (in terms of Resource Person's expectations).	5	4	3	2	1
2.	Faculty members were overloaded with too many responsibilities even during the course	5	4	3	2	1
3.	There were not enough faculty members at the university who could take our responsibilities as alternative arrangements	5	4	3	2	1
4.	Meeting both the expectations of the university and the program requirements was very difficult	5	4	3	2	1
5.	Rescheduling of university classes was difficult to manage during the course	5	4	3	2	1
6.	University didn't consider PCEPT Program as part of the faculty workload.	5	4	3	2	1
7.	Conflicting Schedules caused missing of either university or the PCEPT Program.	5	4	3	2	1
8.	Covering longer distances to reach the course venue was a problem (geographically distant places)	5	4	3	2	1
9.	Accommodation arrangements were not sufficient	5	4	3	2	1
10.	There was absence of fulltime and continuous commitment as per the program requirement, by the participating faculty members	5	4	3	2	1
11.	Lack of reward / acknowledgement or visible recognition i.e. promotion or any sort of bonus on good performance	5	4	3	2	1
12.	The attitude of Heads of Departments/ senior faculty members was non-flexible for implementing change	5	4	3	2	1
13.	Implementing the new ideas in the university environment sometimes become problematic	5	4	3	2	1

14.Any other problems, not mentioned above:

15.Suggest at least three solutions workable in your own context to overcome these problems?

Annexure "D"

QUESTIONNAIRE FOR RESOURCE PERSONS

Name (optional): ---------- **Institution:** ----------
Qualification: ---------- **Experience:** ----------
Faculty/Department: ----------

Section A: Academic Quality of the PCEPT Programs implemented at public sector universities of Pakistan

Use the following scale to answer the questions **1= Disagree; 2 = uncertain; 3 = Agree.**		**(01)**	**(02)**	**(03)**
1.	The Program was useful in enhancing the following skills of the participants:			
	i. Communication skills			
	ii. Skills in psychologically understanding the student's learning variations			
	iii. Skills in learning/applying modern instructional methodologies			
	iv. Academic planning skills			
	v. Time management skills			
	vi. Skills in assessing the students learning			
	vii. Research skills			
2.	The number of sessions was enough according to the breadth and depth of the content.			
3.	The facilities provided in the training centre were satisfactory.			
4.	The required AV aids were provided in the training hall.			
5.	Throughout the course, in time management and coordination was made by the Course Coordinator.			
6.	The participant's selection was rightly made for the program.			

7. Do you think that this course will be helpful for the participants in day-to-day teaching? **Yes No**
8. If no, the reason for it_____

9. The topics you think were overlapping:

_____
_____

10. Any recommendations' for the betterment of future training programs?

Annexure "E"

QUESTIONNAIRE FOR COURSE COORDINATORS

Name (optional): ---------- **Institution:** ----------

Qualification: ---------- **Experience:** ----------

Section A: To what extent do you agree with the below mentioned problems you faced related to Coordination of PCEPT Program:

	Use the following scale to answer the questions. In the left-hand spaces, please write numbers (01 through 03) that correspond to your opinions for each of the following questions. **1 = Disagree 2 = Neutral or no opinion 3 = Agree**	**(01)**	**(02)**	**(03)**
1.	Drop-out of the participants during the course was a problem.			
2.	Call for Nominations or gathering a group of 35 faculty members was difficult.			
3.	Attendance of the participants was difficult to maintain till the end of program.			
4.	It was difficult to engage expert resource persons having specialization in the course modules.			
5.	Maintaining the participants' interest in the program for the whole month was difficult.			
6.	In time start of sessions became problematic.			
7.	Accommodation for the resource persons was difficult to manage.			
8.	Transport facility for the resource persons was difficult to manage.			
9.	There were procedural delays in collecting advance amount from the university.			
10.	There were coordination problems with NAHE.			
11.	If you agree with statement #10, please specify the nature of problem: a. Handling queries b. Non-responsiveness c. Timely provision of information d. Any other; Pl. specify : ----------			
12.	Handling accounts of the entire program was difficult to manage.			
13.	If you agree with statement #12, please specify the nature of problem: a. Lack of training b. Non-cooperation of university accounts staff c. Unclear directions from NAHE d. Any other; Pl. specify: ----------			
14.	Getting the accounts clearance by the internal auditors was problematic.			
15.	Getting clearance of the accounts from NAHE/HEC was difficult.			

1. Managing expenses within

2. Use the option "Sufficient or non-sufficient" against each of the budget head allocated for the program:

a.	Honorarium to Program Participants	Sufficient	In-sufficient
b.	Honorarium for Lectures	Sufficient	In-sufficient
c.	Honorarium for Support Staff	Sufficient	In-sufficient
d.	Remuneration to the University Coordinator	Sufficient	In-sufficient
e.	TA/DA to Outstation Resource Persons	Sufficient	In-sufficient
f.	Stationary and Photocopy	Sufficient	In-sufficient
g.	Contingencies	Sufficient	In-sufficient

3. Any other problems, not mentioned above:

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4. Suggest at least five solutions workable in your own context to overcome these problems?

Annexure "F"

List of Experts who validated the content quality of Questionnaire

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