# EFFECTIVENESS OF IN-SERVICE TRAINING OF ELEMENTARY SCHOOL TEACHERS FOR PROFESSIONAL DEVELOPMENT


Researcher:
**Muhammad Arshad Tariq**
**54-FSS/PHDEDU/F09**

Supervisor:
**Prof. Dr. N. B. Jumani**

**Department of Education**
**Faculty of Social Sciences**
**INTERNATIONAL ISLAMIC UNIVERSITY,**
**ISLAMABAD**


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By

**Muhammad Arshad Tariq**

**54-FSS/PHDEDU/F09**

The thesis submitted in the partial fulfillment of the requirements for the PhD Degree in Education to the Department of Education at the Faculty of Social Sciences, International Islamic University, Islamabad.

**Department of Education,**

**Faculty of Social Sciences,**

**INTERNATIONAL ISLAMIC UNIVERSITY,**

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# DEDICATED

TO

THE MADINA - TUL – ILM

# HOLY PROPHET MUHAMMAD

(SALLALAHO ALAIHE WA ALAIHE WASSALM)

WHO IS THE

ONLY PERFECT MODEL OF LIFE AND EDUCATION FOR THE HUMANITY AT LARGE AND

TO THE SUBLIME LOVE OF MY

AFFECTIONATE **PARENTS**,

RESPECTED **TEACHERS**,

CARING **WIFE**

&

LOVING **CHILDREN**.

# FORWARDING SHEET

This thesis, titled **"Effectiveness of In-Service Training of Elementary School Teachers for Professional Development"**, presented by Muhammad Arshad Tariq, Registration No. 54-FSS/PHDEDU/F09, in the partial fulfillment of the requirements for PhD in Education, has been completed under my guidance and supervision. I am satisfied with the quality of scholar's research work and allow him to submit this thesis for further process as per IIUI rules and regulations.

Signature: _____

Supervisor

**Professor Dr. N. B. Jumani**

# STATEMENT OF UNDERSTANDING

I, Muhammad Arshad Tariq, Registration No. 54-FSS/PHDEDU/F09, scholar of PhD Education, International Islamic University Islamabad, do hereby solemnly declare that the thesis titled **"Effectiveness of In-service Training of Elementary School Teachers for Professional Development"** submitted by me in the partial fulfillment for the requirement of PhD degree in Education, is my original work. The material which I have consulted is acknowledged in the text. This thesis has not been submitted or published earlier or nor will be submitted in future for any degree from any university or institution.

Signature: _____

Dated: / /2016

**Muhammad Arshad Tariq**

**54-FSS/PHDEDU/F09**

# APPROVAL SHEET

This thesis, titled **"Effectiveness of In-service Training of Elementary School Teachers for Professional Development"**, submitted by Muhammad Arshad Tariq, Registration No. 54-FSS/PHDEDU/F09, in the partial fulfillment for the requirements of PhD degree in Education with specialization in Teacher Education, is accepted by the Department of Education, Faculty of Social Sciences, International Islamic University Islamabad (IIUI) for the award of PhD degree in Education.

**Viva Voce Committee:**

**Supervisor:** _____

**(Professor Dr. N.B. Jumani)**

**Internal Examiner I:** _____

**(Dr. Samina Yasmeen Malik)**

**External Examiner I:** _____

**(Prof. Dr. Aisha Akbar)**

**External Examiner II:** _____

**(Prof. Dr. Umar Ali Khan)**

**Dated: 13/04/2016**

**Chairman:** _____

Department of Education,
International Islamic University,
Islamabad

**Dean:** _____

Faculty of Social Sciences,
International Islamic University,
Islamabad

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M. A. T.

# ABSTRACT

This study focused on assessing the effectiveness of in-service training in developing teachers' knowledge of educational research, values of refining teaching and collaborating with colleagues. It also investigated the effectiveness in developing teachers' skills of reflecting on teaching and engaging in educational programs for continuous professional learning. The study utilized the convergent parallel mixed methods design. Five hundred and eighty six teachers, two hundred and eighty five head teachers and nine master trainers were randomly selected as sample of the study. Data were gathered through questionnaires and interviews from the target sampled groups. Validity was determined through experts' opinion and pilot testing. Reliability was measured through Cronbach Alpha technique. The quantitative data were analyzed to employ frequency, percentage, mean and chi-square. The qualitative data were analyzed from extracts of the master trainers by breaking it into common codes, themes and categories. It was concluded that the training were ineffective for professional development of teachers. Training did not develop teachers' knowledge of educational research for professional improvement. Furthermore, it could not help in bringing up collaboration and also remained unsuccessful in developing skills of reflection and participating in professional learning programs. On the basis of these conclusions, it is recommended that some well-structured, incentive based and career-linked programs may be designed to develop teachers' proficiency in research, collaboration and reflective practices for enhancing students learning outcomes. Experimental studies in professional development of teachers on scholastic achievement of learners and effects of using technological tools on knowledge-sharing formed the key areas for further investigation.

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# INTRODUCTION

## 1.1 Introduction

Teaching has passed through many phases. It started as a mission, a service, a calling and a worship possessing high attributes of knowledge and learning. It then moved to an art, applying scientific tested knowledge in the field. It landed to an occupation when the teacher demonstrated the craftsmanship. It has now attained the status of specialized profession, demanding fulfillment of expected norms, behaviors, standards, continuous advancement and integration of knowledge-based technology and satisfaction of learners' needs and addressing the challenges with an increased level of commitment.

In this context, many professions and occupations are largely accepted and highly valued in the societies due to their dedicated and committed services for the well-being of the general public and the humanity at large. As a result, professionals who demonstrate professionalism enjoy distinction, reverence, and leadership role (Kultgen, 1988). While performing the specialized responsibilities, the professionals receive extended guidelines regarding the conduct, demeanor and standards to perform state of the art and high quality practices.

Professionalism is the concept as the high standards that are expected from the person who is well-trained in particular job skills. Largely, it includes academic and practical qualifications, capacities, proficiencies, imperative services, ethical code of conduct and professional autonomy to exercise the

practice effectively (David, 2000; Englund, 1996). It, particularly, focuses on improving the quality of service, attitude and to achieve high level standards to carry out the practice and profession (Demirkasimoglu, 2010).

Like other distinguished professions of contemporary world, teaching is deemed as the profession and above all, a genuine profession and a parental profession of all professions (Carr, 2000; Whitty, 2000). Teaching is the professional fieldwork; it consists of important services for society, ethical code of practice and professional standards in order to foster learning of the students. To elicit the theory of professionalism in teaching, it is essential to espouse the approach of teachers' professional development.

Professional development of teachers is indispensable for making teaching job more effective. Several incentives are highly necessary for professional development of teachers. It improves job skills of individual teacher, extends experience for career development or promotion purposes, develops professional knowledge and understanding, and enhances vision of the person and clarifies school or departmental policies (Craft, 2000). According to professional approach, a teacher is required to fulfill certain standards of teaching' project and relatively develops them at proficiency level and influences the quality and character of his or her works (Demirkasimoglu, 2010; Hilferty, 2008). The professional development of teachers has progressively accrued utmost position due to technological changes, furtherance in instructive investigation, standard-based outcomes, accountability and demands of excellence in schooling.

Teachers have been construed that they learn throughout their academic and professional career to support the process of teaching and learning in

classroom environment (Moeini, 2008). Beyond the traditional approach of tutelage, it is inevitably challenging to endorse teaching as a profession by adopting the professional development projects.

Generally speaking, the professional development of teachers comprises all the activities that construct teacher's knowledge, abilities, and other characteristics regarding teaching profession. Professional development activities are those that are designed to develop an individual's skills, knowledge and expertise as a teacher (or more generally, a professional). These activities are formal and could refer to different activities such as courses and workshops, but also to formalize teachers' collaboration and participation in professional networks. Thus, professional development activities do not refer to teachers' daily practices which also are developing them professionally (OECD, 2014). It is the development that continuously engages teachers in diverse activities in order to improve teaching awareness, skills and values for effective performance in classroom environment. Mostly, it involves formal and informal learning interventions to recreate and renovate intellectual capacities, dedicated dispositions and expert performance of teachers in order to materialize students learning outcomes (Bubb & Earley, 2007; Conlon, 2004). The learnt experiences of teachers modernize their skills and traits about tutelage. Hence, these characteristics have been provided through in-service training and this is an essential part of professional development of teachers (World Bank, 2006). Therefore, the knowledge, dispositions and skills of teachers are maximized by way of training projects and programs.

Training of teachers is considered to be critical and vital element to improve quality of education as a whole (World Bank, 2006). It has always been deemed as an important feature but in the present scenario of knowledge explosion, an in-service teacher training has become the most important factor of quality tutelage. The in-service training is accepted as an effective tool of increasing the knowledge, skills and positive beliefs of teachers (Bayakoi, 2009). Often, the in-service training is the term used to describe a set of activities and requirements generally falling under the framework of professional development for working teachers.

It is said that the professional teachers are required to demonstrate sound knowledge in subject, research and develop professional portfolio (Harwood & Clarke, 2006: Partin, 2009; Wang, Kretschmer & Hartman, 2010). The teachers must exhibit commitment to refine teaching patterns and collaborate with other agents and stakeholders of the school culture (Govt. of Pakistan, 2009; Killeavy & Moloney, 2010; Mishra, Sharma & Bansal, 2007; Tileston, 2011). The working teachers exclusively perform professional reflection as continuing development to innovate teaching and they participate in progressive projects that improve presentation and students' learning outcomes in classroom environment (Bourke, 2013). By adopting distinctive feature of professional development projects, the dedicated teachers would endorse tutelage occupation profession at the top among the prestigious and admired professions.

In context of Pakistan's educational scenario, it is felt that teaching profession has demonstrated poor performance especially in public sector. The teachers have poor performance in subject competencies (UNESCO/USAID &

ITA, 2008). Unfortunately, they possess less knowledge and skills which are insufficient to endorse teaching as a profession and teacher as a professional person (Thomas, 2013). All stakeholders have the unanimous opinion that the quality of public teachers is unsatisfactory in Pakistan (Memon, Joubish & Khurram, 2010). Dismal performance of teachers in the education system is because of inadequate in-service teachers training projects (Govt. of Pakistan, 2009). Some total of these facts and findings makes out the strong case for improving the competencies regarding the practice of instruction, teachers need higher standards in the training projects.

It is incumbent that all teachers must have opportunities for professional development through a program organized on a three-year cyclic basis. The progress in career shall be linked to the participation of such professional development projects (Govt. of Pakistan, 2009). In order to accomplish the status of professional teaching, of course, teachers need to update their knowledge, skills and values regarding their professional practice and changing their academic environment in the classroom as well (UNESCO/USAID & ITA, 2008).

Professional development plays crucial role in promoting teaching quality, instructional strategies and professionalism among the teachers. Teachers are demanded to adopt research-based practices, use the standardized methods of teaching, and enhance their capabilities by participating in professional development training programs. This is where professional development of teachers comes in. So, in order to achieve the expected outcomes of in-service training, its effectiveness needs to be measured in terms of professional development for building up teachers' proficiency.

## 1.2 Statement of the Problem

Cognizant of the problem of professionalism in terms of knowledge, attitude and skills of classrooms, this study intends to evaluate the in-service training program of elementary schools teachers for professional development, carried out by Directorate of Staff Development (DSD) and its institutions. In this perspective, this study focuses on the issue of "Effectiveness of in-service training of elementary school teachers for professional development", in the context of National Professional Standards for Teachers in Pakistan.

## 1.3 Objectives of the Study

Based on the rationale and research problem, this study formulated the following objectives:

1. To assess the effectiveness of in-service training in developing the teachers' knowledge of educational research for the professional development.
2. To explore the effectiveness of in-service training in developing the teachers' values of refining the teaching and collaborating with the colleagues for the improvement in the practices.
3. To investigate the effectiveness of in-service training in developing the teachers' skills of reflecting on teaching and engaging in the professional programs for learning and practices in the classroom environment.
4. To analyze the opinions of the teachers about the professional development through in-service training projects.

## 1.4 Research Questions and Hypothesis

The research questions were drawn from the felt needs of classroom environment and the null hypothesis was generated from the review of literature. They were important to meet the needs of quantitative and qualitative components of the study. The research questions addressed the issues and remedial interventions whereas hypothesis inferred statistically vital data for the quantitative part of the study. Research questions were relevant to teachers' knowledge of research, dispositions of refining practices of teaching and collaboration with colleagues for the professional development.

The major research questions have been discussed in detail. The first research question, which is based on the objective No. 1, addresses the teachers' knowledge about the operational educational research. To address this gist of professionalism in teaching activity, the following research question was drawn. Research question (RQ) No. 1 and the null hypothesis was stated as:

**RQ1:** 'Do the teachers have knowledge about the operational educational research for the professional development?'

On the basis of first research question (RQ), the hypothesis was drawn. Hypothesis is generally formulated to make prediction of relating variables. It also makes clear the purpose statement in order to point out specific variable to be tested. These variables are then related to each other or compared for one or more groups (Creswell & Clark, 2011). On the basis of a hypothesis, the data could be collected and then analyzed. Then conclusion could be drawn and in the light of the results, this process would confirm or contradict with the hypothesis.

Therefore, the hypothesis was generated to infer the teachers' knowledge of educational research and their participation in the research interventions to examine the effectiveness of in-service training of the teachers. The hypotheses are stated as,

**$H_0$:** 'There is no significant development in teachers' knowledge of educational research for professional improvement through in-service training.'

**$H_A$:** 'There is a significant development in teachers' knowledge of educational research for professional improvement through in-service training.'

Alongside, the knowledge in research, the teachers have to take up some fundamental and core values which are essential for the teaching profession. The refinement of teaching practice to address the students' needs and working together with colleagues are two main and important values for the professional teachers. To address the discourse of above-mentioned professional values in teaching, the research question (RQ2A) and research question (RQ2B) were verbalized. Research question (RQ2A) and research question (RQ2B) are formulated as,

**RQ2 (A):** 'How can teachers fulfill their obligation to filter teaching practice that deals with the needs of varying levels of the students?'

**RQ2 (B):** 'How do teachers demonstrate commitment to work together with other colleagues in school to share their professional experiences?'

Research question 3 points out teachers' skills of professionally reflecting upon teaching practices and participating in professional activities to improve

classroom performance that they have learnt during in-service training sessions. The research questions (RQ3A & RQ3B) were formulated as follow:

**RQ3 (A):** 'In which activities do the teachers engage themselves to reflect on teaching in order to develop their professional practices in classroom setting?'

**RQ3 (B):** 'To what extent do the teachers participate in professional activities in order to improve the teaching practice?'

The teachers' opinions are significantly important for their professional development through in-service training program. Therefore, the opinions would be judged through the following question.

**RQ4:** 'What are the opinions of teachers about training program for the professional development?'

## 1.5 Significance of the Study

This study carries implications for many stakeholders. The first group is the policy makers at macro and micro levels. The macro group provides policy directions, vision and means of teachers' enrichment incentives and programs. The micro group refers to the professional organizations (DSD & PITE, etc.) to translate the policy directions into strategic training programs, well-written modules, training packages, etc., seeking increased commitment of teachers' professionalism.

At management level, the directorates of education at district and local levels for deployment and mentoring the trained manpower of school heads, working teachers and school management committees to integrate the school functioning and reaching out the body of other teachers in the schools. At the

basic level, it is the primary group i.e., the learners who seek benefits of well-trained and professionally committed teachers in terms of high scholastic achievement and young educated citizens of tomorrow.

Thus empirical values of this investigation yields insight into various spheres associated with policy making, administration and management, curriculum development, operational research in real classroom environment, in-service training institutions and all the educational stakeholders for the enhancement of professionalism in teachability.

In addition, the results of this inquiry required the higher educational authorities and especially the policy makers to look at the curriculum and policies because the teachers' professionalism is closely related to the professional orientation and trust of higher establishment of school (Tschannen-Moran, 2009). Also, analysis of the data would yield the findings for improving in-service training institutions to formulate diversified strategies for the teachers' professional development.

Concurrently, the emerging criteria of skills developed during in-service training provided an opportunity to the policy makers in setting an appropriate external criterion for measuring the efficiency of the teachers' professional knowledge and understanding, skills and values for establishing plans and policies for the professional development of the teachers. Above all, the conclusions of this investigation innervated a base line to all those interested in the progress of in-service training to plan and conduct further investigations.

## 1.6 Limitations of the Study

The study confined the following limitations:

1) The method of evaluating the knowledge of research for teachers seemed inadequate. The item 7th about article writing seems beyond the capacity of elementary school teachers. However, the item was added for assessing teachers' practical knowledge and interest in publication for the professional dissemination of knowledge and collaboration with others researchers and colleagues.
2) The study could not involve the District Teacher Educators (DTEs), Assistant Education Officers (AEOs) and managerial authorities at district level and DSD, etc. due to limited time and resources.

## 1.7 Delimitations of the Study

This study was delimited to the following areas:

1) Public schools of the province of Punjab.
2) The effectiveness of in-service training was measured on the training imparted during 2009-2012. It was determined from the selected sample of teachers and head teachers by using the questionnaire about the practices they learnt in the sessions and later utilizing in the classrooms.
3) Knowledge domain of educational research, development and maintenance of professional portfolio; disposition domain of refining teaching practices for students and the school/community and sharing successful professional experiences with others. The last one belonged to the skill domain in terms of reflective practices for their professional development plans and

enhancing professional capability through professional organizations as envisioned in the National Professional Standards for Teachers in Pakistan (2009) the Standard No. 9 on Continuous Professional Development and Code of Conduct (Appendix D).

## 1.8 Procedure of the Study

This study utilized questionnaire and interview tools to address the objectives and research targets. Questionnaires provided quantitative data while interview produced qualitative information in order to address the objectives of the study. The study employed convergent parallel mixed method research design. The population of the study comprised the elementary school teachers (ESTs), head teachers (HTs) and master trainers (MTs) belonging to all districts of Punjab. Rawalpindi, Nankana Sahib and Lahore were selected as sample of the study. These three districts represented the typological characteristics of the province, covering upper part of Punjab (Rawalpindi), central part of Punjab (Lahore) and under developed district of Punjab (Nankana Sahib). Furthermore, in-service training programs were organized by Directorate of Staff Development (DSD) which centrally regulates the quality of in-service training of overall population. There were 494 elementary schools and 5860 elementary school teachers in these districts (Government of Pakistan. 2007). The sample size of 586 was chosen out of 5860 elementary school teachers. Elementary schools head teachers (285) mandated resulting from using the simple random sampling technique and 25% of the master trainers out of 45 commissioned as sample by purposive sampling, as well.

The data were collected through using questionnaires from teachers and head teachers, while the master trainers were interviewed. The data were tabulated on SPSS software. Chi-Square statistical test was done to analyze the collected data because the data were presented in categories and percentages. The interview data were analyzed through qualitative data analysis techniques.

## 1.9 Operational Definitions

Following constituted the definitions of the key terms used in the study.

### Professional Development (PD)

This is developmental program based on National Professional Standards for Teachers 2009, the Standard No. 9th on Continuous Professional Development and Code of Conduct. It professionally develops teachers' knowledge in relation to educational research and the values to refine the teaching learning process and share their thriving experience with other colleagues. Moreover, it enhances the skills of reflective practices and learning projects through professional educational organization

### Elementary School Teachers (ESTs)

The working school teachers who teach the classes 6th to 8th in the elementary/middle schools in public sector are considered to be elementary school teachers (ESTs).

## In-Service Training

It is the set of interactional activities that upgrade the knowledge, inculcate the values, and instill the skills of working teachers for their professional development.

## Effectiveness

The effectiveness is the degree of in-service training of teachers for professional development to produce successful practices of instruction in order to perform professionally and enhance the students' academic achievements and learning capacities in the classroom.

## Practical Research

It is the systematic way of solving the problems through adopting the research process, reading and writing the research findings and articles, etc. in order to facilitate the teaching and learning in the classroom.

## Collaboration

It is the procedure of sharing successful experiences with the colleagues for improving the teaching and learning projects and designs in the classroom environment and the school.

## Refining the Teaching Practice

It is the state of the art research-based practices to refine the teaching such as through establishing the learning environment, planning the instruction, presenting the content, assessing the learning achievements, providing the

feedback and integrating the ICTs with pedagogy, etc. In the classroom setup, keeping in view the needs, behavior and learning patterns of the students.

## Reflection

The reflection is the process that studies the teaching through consideration, careful and implied criticism, and analytical activities and constructive feedback in order to bring changes in the pedagogical practices and projects. The feedback receives through these activities include writing the professional diary, developing the portfolio, observing the peer, discussing with the colleagues and videotaping the practices.

## 1.10 Conclusion

Professional development of teachers has gained great impetus throughout the world. If international scenario of teachers' development is analyzed, it can be observed that the countries which have established wide-ranging policies to enhance the quality of their teachers by engaging them in in-service teachers training programs have improved their performance in the Program of International Students Assessment, PISA 2012 (OECD, 2014).

To fulfill this gap, in-service training programs are provided to cover a wide range of areas: pedagogy and pedagogical content knowledge, subject content knowledge, testing & assessment practices, multi-grade teaching, monitoring & evaluation (Govt. of Pakistan, 2009). All educational policies and documents emphasize on in-service training projects and capacity building programs which provide teachers current and fresh information about their occupational and professional requirements (ASER, 2014; Govt. of Pakistan,

1947; Govt. of Pakistan, 1979; Govt. of Pakistan, 1998; Govt. of Pakistan, 2009; Govt. of Pakistan, 2013). It has been observed that in-service training has remained the most neglecting element in the area of current educational system (Saeed & Salamat, 2006).

The National Professional Standards for Teachers emphasize these diverse activities for the teachers' development. Based on the standards of professional teaching approach, the study has attempted to explore the effectiveness of in-service training of elementary schools teachers for professional development. For this purpose, three objectives were drawn on the basis of the domains of National Professional Standards of Teachers. The research questions and the hypothesis were also formulated to generate the research findings and leading to a set of recommendations.

Chapter 2 presents review of the related literature and studies to establish the background and status of professional development of the teachers in detailed perspective.

# CHAPTER 2

# REVIEW OF THE RELATED LITERATURE

## 2.1 Introduction

Knowledge is the ultimate source of constructing and conquering the universe and doing the welfare of human beings. It is produced and transformed through adopting the channel of formal and informal educational system which initiates opportunities to execute the universal functions. The educational system comprises of many significant components such as the rational and logical interventions and experiences for teaching and learning activities, methods of tutelage specially the integration of pedagogy and ICTs, classroom layouts and environment. The students become the producer of knowledge and the teachers as the researcher, practitioner, collaborator and reflector to facilitate production of knowledge and skills. The teachers in this scenario have an indispensable role in producing, presenting and disseminating the knowledge. Thus, development of teacher is an essential task which needs to be based on vision, curriculum design, applying theories of human learning and development, assessment, construction and validation of knowledge.

Generally speaking, the efforts that a teacher performs as he/she transfers knowledge and gives instruction are viewed as teaching (Navarro, Cruz, Tovera & Lucido, 1998). Despite traditional view of teaching, it has become a very challenging profession because it is a highly complex, dynamic and all-round activity of transforming knowledge, skills and values to the next generation in a

changing world (Erwin, 2004; Fine, 2005). The nature of tutelage elicits a teacher to develop him/her professionally beyond the traditional approach of teaching in order to meet, prompt and potent commutes in the professional gild and to accelerate learning outcomes and potentials of students in classroom setting. Consequently, the teacher's professional development has immense significance and it can sustain quality education at different levels.

There are a number of cutting-edge theories, paramount models and compelling evaluation techniques which delineate the colossal depth of professional development of teachers. Furthermore, an enormous persuasive literature in the shape of books, periodicals, journals and articles, heady websites and winning institutions have come into existence to enlighten the professional development of teachers.

## 2.2 The Concept of Professional Development of Teachers

Professional development program enhances teachers' capacity and capability that ultimately promote learning of students in classroom setting. It is very profound and rigorous plan due to its broader perspective in the programs of educational context particularly at fundamental stage. The concept is extensively defined keeping in view its nature and context of the course for the advancement of innovation, creativity and imagination of teachers.

Two major themes have emerged from the concept; firstly, development of teachers' skills and secondly, its impacts on students' learning outcomes and potentials. Therefore, enhancing teachers' professional faculty in line with

development and accomplishment of students' academic are chief features which would be defined by highlighting professional development of teachers.

The professional development of the teachers is anything that helps in progress teachers' existing skills or enhances their professionalism (Rodrigues, 2005). It must conform to the desires of an individual teacher and particularly, it is the learning at the site of teachers' working (Sweeny, 2003; Zepeda, 2008). Keeping in view the perspectives of students' learning, it is deemed as an action of refining the professional understanding, performance and dexterity of the teachers to manage students' learning, generate critical thinking and increase scholastic achievement.

On the basis of the teaching skills and attributes, the professional development of teachers is defined as the process that is designed to escalate professional acquaintance, expertise and aptitude of the teachers in order to contribute and develop learning of students (Guskey, 2000). The definition provides comprehensive view of professional development used to pass through teachers in deliberated designed programs that amplify their job concerning tasks for augmentation of learners' understanding and accomplishment.

However, from the contemporary perspective, an effective and high-quality development of the teachers is demanded to promote the teaching in multi-dimensions and in-depths settings. The extended elements of professional development of teachers highlight several intensive functions beyond the traditional teaching affairs. In short, an effective and high-quality professional development approach of teaching is being illustrated in figure 2.1. It

demonstrates that the professional development of the teachers has specific purpose, philosophy, focus, strategies, status and improvements.

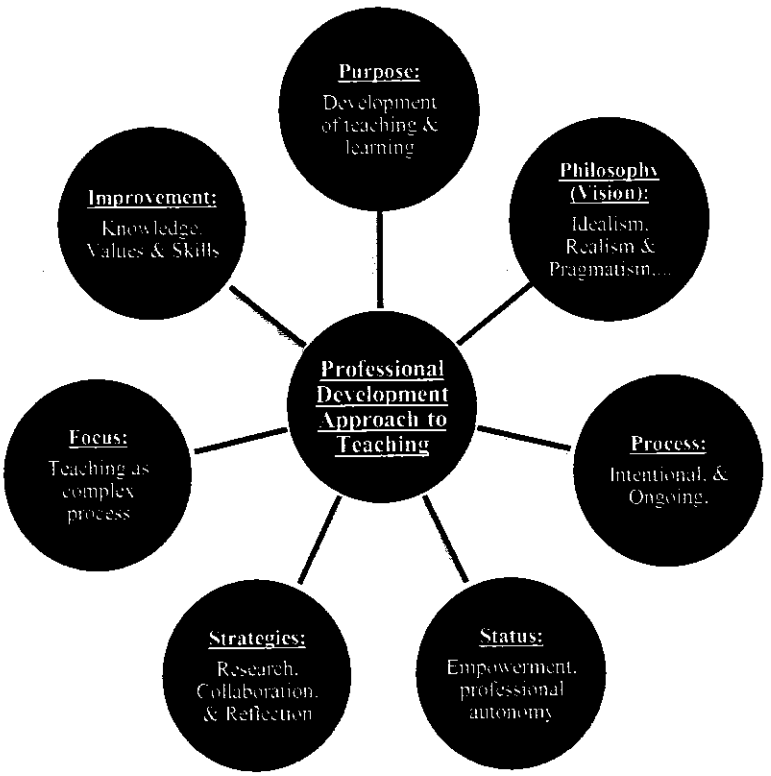


Figure 2.1. Professional development approach of teaching.

Designing effective and high-quality professional development program provides opportunity to offer and cultivate knowledge regarding content and pedagogy, reflects best practices in teaching and learning, helps teachers to learn to work collectively and recognizes themselves as members of learned communities (Strickland, 2009). It is further elaborated that professional learning directly concentrates on teaching and learning of the study material, opportunities for the teachers to collaborate and build strong working relationships with colleagues and is continuously monitored and evaluated (Loucks-Horsley, et al., 2010). Finally, it is characterized by engaging teachers in professional learning interventions which are helpful, job-embedded, instructionally focused,

collaborative and continuing (Hunzicker, 2011). Thus, teachers can exhibit the role to be researchers, collaborators, reflectors and practitioners.

The teachers are concurrently emphasized to have good know-how to collect, analyze and synthesize the information in order to solve the pedagogical

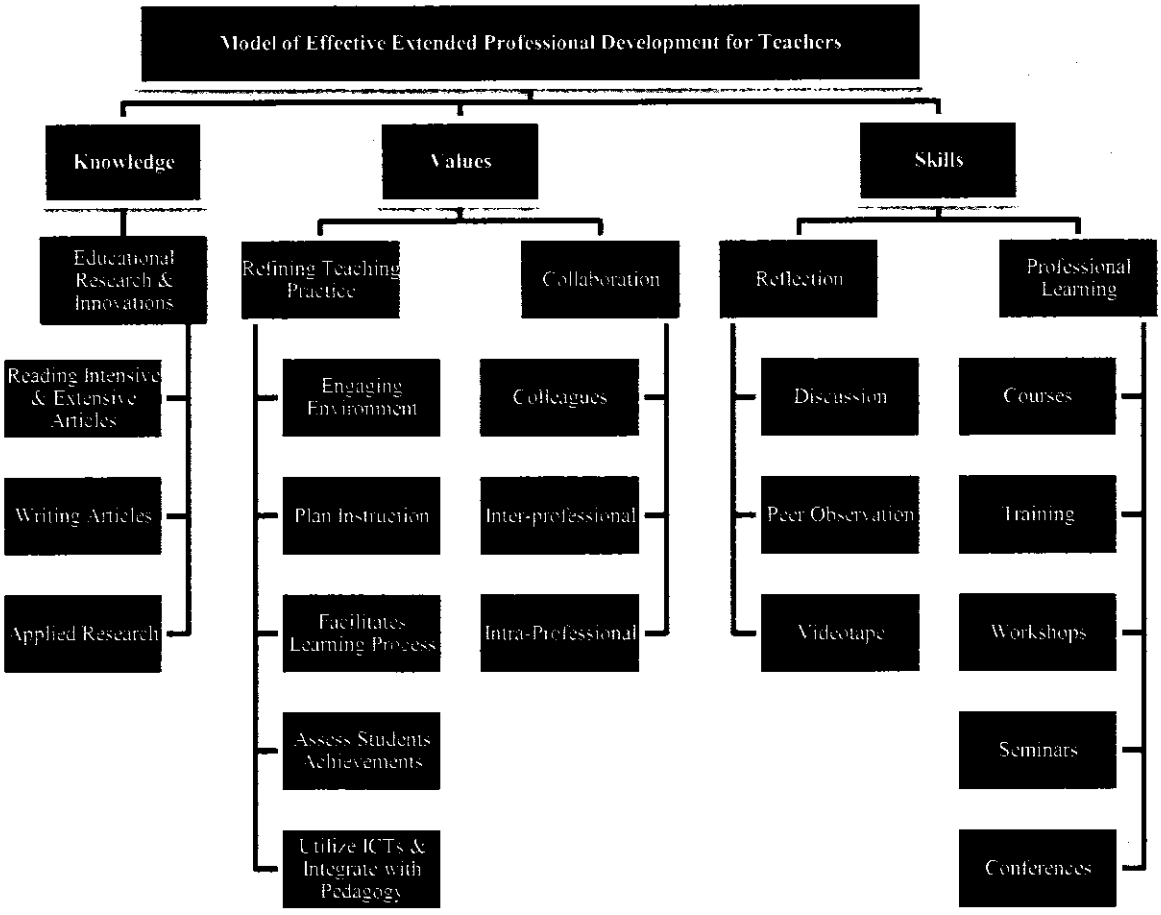


Figure 2.2. Model of effective extended professional development for teachers.

problems and issues encountered in the classroom environment. The reflection upon teaching, collaboration with colleagues and developing portfolios constitute the key characteristics of teachers' development program.

Finally, they would be engaged in diverse professional activities to learn the profession' complexities. The conceptual model for the teachers' professional development is illustrated in the figure 2.2. The features of the model support professional activities that raise up teachers' practice competency and aptitude in relation with the teaching job and performance in classroom environment for accomplishments of students' tasks and targeted learning.

However, the pertinent questions which have been raised in this study i.e. which kind of knowledge, values and skills are important for the teachers to conduct and process the pedagogy in the classroom setting, these are the fundamental concepts to address the needs of the professional development programs. Thus, the subsequent discussions highlight the need of knowledge necessary for the teachers' professional development and furthermore, to address the question No. 1.

In this respect, teachers' knowledge of educational research, participation in the research projects, awareness of scientific and other methods of inquiry especially the 'model of practitioner research' are presented in the subsequent discussions and narrations.

## 2.3 Teacher's Knowledge of Educational Research

Educational research, which is a logical and controlled technique of investigation, that helps teachers to develop competency in solving problems concerning thinking curriculum, its design and development, pedagogy, classroom management and layouts, students' behaviors, assessment and measurement techniques etc. It is also a potential source of knowledge for the teachers as a means for continuous learning, self-assessment and professional development in

order to boost up students' learning in classroom environment. Practically, if teachers have been granted this sort of support; they can achieve dynamic quality in their practices (Robinson & Lai, 2006). An important aspect of that support is a high quality of professional development where action research skills can be learned and used on-the-job problem solving techniques.

Teachers are progressively kept engaged in various types of inquiry due to current importance on research-based practice and evaluation. Practicing teachers' inquiry depicts complete anecdotes of students' achievements and assess the problems of teaching and teachers' views about their experiences (Fox, Martin & Green, 2007). In educational research area, teachers' research also have been endorsed as valuable and valid inquiry for the development of policies, plans, strategies and quality of education and teaching (Clarke & Erickson, 2003). Recently, it is deemed that teachers are needed to essentially equip with knowledge of different educational research techniques to strengthen their achievements in classroom setting.

The idea of teacher as a researcher has been emerged by preparing and involving teachers in research and inquiry process. Engaging teachers in complex and critical research stimulate their professional position, empowerment and progress (Kincheloe, 2002). Thus, connotation of teacher as researcher has put on significant character to integrate theory and practice in classroom, teachers' professional development, self-evaluation, course evaluation, students' performance, leading to better scholastic achievement. Therefore, the teachers as researchers require to possess multitude skills in the action research methodology designs and practices.

Teachers carry out inquiry as a researcher because they are curious of knowledge, close observer of students, discuss issues with associates and reflect on existing theories and practices to integrate the source of inquiry (Sagebart, 2006). It magnifies the idea of the teacher as a researcher because every teacher is truly a researcher owing to reflection on his/her lesson for improvement and to address students' success and to yield with other members of school (Martin, 2001). Other four types of origins are found to illustrate the theory of teacher as a researcher is as follow:

i. Reflecting on classroom practice as foundation to intensify learning and instruction process;
ii. Participating in research for their vigorous role in the professional development activities;
iii. Exploring the practical research frameworks for curriculum and school improvement and effectiveness;
iv. And supporting the teachers to address the large scale issues of democratic educational setting, human rights and social justice issues (Burnaford, Fischer & Hobson, 2001).

The theory favorably contributes the role of teacher as a mentor, reflector, guide, collaborator, constructor, practitioner and researcher. Illuminating the approach to teacher as a researcher that research is being conducted by the teacher constantly presenting input in order to increase the body of research on different educational issues like curriculum revival and pedagogy (Smith & Smith, 2006). Thus, teacher as a researcher brings about with several methodologies of quantitative and qualitative paradigm and models for constructing and reforming

the educational and pedagogical problems and issues to improve students learning outcomes and accomplishments. In reality, students' learning outcomes and performances have deep relationship with teachers' ability in research and knowledge. So, it is said that the teachers' inquiry deal with the learning of the pupil (Durrant & Holden, 2005).

Consideration of the complexities and challenges of teaching has expanded the role of teacher as researcher (Campbell, McNamara & Gilory, 2004). The teachers' action-oriented research not only encompasses its responsibilities and impact on the teaching and learning for the students' achievements but also it urges to increase performance and collaboration with colleagues for school's effectiveness and better results. In fact, it is a fundamental activity that students' learning is based on teachers' knowledge of research and evidence. So, teachers' knowledge of research is highly effective element in the students' success and development.

The teacher's research has a significant value to improve pedagogical and didactic model, to develop context-specification solutions and to foster content and classroom outcomes of the students, (Robinson & Lai, 2006). Consequently, the whole process of education system can be improved by restructuring and reconstructing teachers' comprehension and skill in research and enhancing the idea of teacher as a researcher.

It is important to deduce that teacher's participation in research is one role. He/ She tests constructs to reconstruct knowledge. He/ She provides raw data to build up theory which is the role of theorist and not of a teacher. Teacher is a practitioner as well as provider of empirical data for building up and refining the

theory. Thus, teacher' role as a researcher needs to be conceived in this perspective, essentially. His/ Her role is limited i.e. instructional-specific and not beyond.

### 2.3.1 Teachers' Practicality in Instructive Investigation

Actually, the teachers hardly pay attention to extra matter beyond the routine teaching patterns. However, teaching practice in the classroom is now considered having strong and substantial links with educational inquiry and scientifically problem solving strategies. Thus, teachers have to know adequate process of educational research to accelerate teaching effectively. The educational research process by various instructional researchers is profoundly delineated in and through their voluminous writing to maximize the effectiveness of instructional practice in micro context, school efficiency and societal change at macro level.

A teacher can learn innovative and creative teaching practices by educational research findings inferred by external researchers who are inexperienced as well as possess a little knowledge of teaching learning process. So, teacher himself/herself involved in research is highly postulated owing to the authentic assessment and accountability in teaching profession and practice. To know the educational research approaches for teachers is a social phenomenon. But the important query is which sort of knowledge is necessary for the teachers to accomplish research because there are a variety of approaches that are used for this purpose.

Educational practice has complex functions to hold various kinds of issues that involve different perspectives and approaches of inquiry. It is also proposed that search for truth needs an eclectic approach for researchers (Pring, 2004). However, pragmatist and proactive approaches to solve educational issues have been effectively addressed in educational research. Therefore, teachers utilize the educational research for improving practice and students' performance. Educational research is defined as the collection and analysis of information on education in order to understand and clarify its significance and process for learners and teachers (Opie, 2004). It has two major approaches e.g. quantitative and qualitative as well as experimental and descriptive; on the other hand, it also entails a number of techniques of data collection and analysis for generating research conclusions.

Educational researchers use experimental, descriptive, survey, co-relational, and comparative approaches as well as descriptive and inferential statistics such as ANOVA/ANVOCA, correlation, regression, t-test, and psychometric statistics applied for data analysis procedure. Hence, it is difficult for the teachers to know and apply all these approaches of educational research.

The essential steps to carry out educational research process, are as follow: (i) identification of research problems (ii) drawing hypotheses (ii) identification and categorizing research variables (iv) stating operational definition of terms (v) defining the process of manipulating and controlling variables (vi) selecting appropriate research design (vii) constructing tools for research (vii) methods for conducting research (viii) collecting data, (ix) analyzing and interpreting data for drawing conclusions (Kumar, 2005). Some major steps involve in educational

research process are (i) identifying and defining the research problem (ii) reviewing the relevant literature (iii) formulating hypotheses or research questions (iv) collecting data (v) analyzing data (vi) drawing conclusions and (vii) generalizing the research (Pathak, 2008). The educational research process is likely to resemble to the scientific method being used in other social sciences.

However, educational research process also accommodates pure scientific method in its area of inquiry. The salient features of educational science are as, (i) identifying the research problem (ii) drawing research questions (iii) seeking for related texts or information, comprehending the related manuscripts and reviewing the related researches (iv) measuring the instruments validity and reliability issues (v) selecting appropriate designs like qualitative and quantitative approaches and then carrying out the research (vi) analyzing the data and inferring the research conclusions (vii) writing report of the research investigated and (viii) referencing the related researches material (Boudah, 2011). This model of educational research process is nowadays frequently considered by the educational researchers all over the world.

The educational research process is presented in six parts by some distinguished researchers in education for carrying out the systematic and organized activities to solve problems. In the first part, they elucidate some general areas of research as (a) basic research (b) applied research (c) practical/ action research (d) evaluation research and (e) orientational research. In the second portion, they explicate (a) concern to generate the research idea (b) find out and write review of related literature (c) draw research questions (d) designing of research proposal and (e) research ethics. In the third section, they express

some commonly used methods of data collection i.e. (i) test (ii) questionnaire (iii) interview (iv) focus group discussion (v) observation and (vi) document analysis. Furthermore, they present sampling, validity and reliability techniques concerning the study.

In fourth part, they explain selected research approach in quantitative method e.g. (a) experimental research (b) quasi-experimental research and (c) non-experimental quantitative research. On the other hand, they mention qualitative research methods like (i) phenomenology (ii) ethnography (iii) case study (vi) grounded theory (v) historical research and (vi) the mixed research methods. In the fifth part, they spell out the data analysis techniques as (i) descriptive and (ii) inferential statistics. In the sixth part, they clearly describe how to write the research report in APA style (Johnson and Christensen, 2012).



Thus, the knowledge, values and skills of educational research by teachers must be based on the above-mentioned criteria and process to solve the classroom problems and issues. Generally, classroom teacher is a practicing teacher. The types of problems and issues which he/she has to face are related with instructional conditions.

These are distinctly complex, demanding and challenging. These issues refer to practical research which is the prime concern of teaching methodology. Thus, (a) teaching strategies (b) learning environment (c) authentic assessment (d) thinking curriculum for all or alternative curriculum for separate groups (e) multiple textbooks' evaluation and alike are various facets of the practical research. It is here that the teacher is essentially involved with other stakeholders.

Thus, through applying knowledge of quantitative, qualitative and mixed methods educational research design, the teachers make their practices more effective in the classroom environment However, some school teachers may tend to narrate their classroom issues through other methods of inquiry, as well.

### 2.3.2 Other Methods of Inquiry

Scientific method carries a great potential to deal with data gathered through a more systematic way. But scientific method sometimes cannot study in-depth the phenomenon of social or educational problems and issues. For dealing with complex problems, the experts, therefore, propose alternative method of inquiry known as the narrative inquiry. It is a widespread approach in educational setting to improve the continuing learning and development of teachers.

Narrative inquiry is an inquiry process, somewhat latest trends in research approaches used for educational progress and undoubtedly, is inferred from other disciplines like social sciences (Barret & Stauffer, 2009). Narrative inquiry approach helps the teachers and the learners to share their experience for the improvement of complex phenomenon called education and human development. Some experts admit that it focuses on dealing with intricacies and subtleties of human experience for teaching and learning process (Webster and Mertova, 2007). It empowers teachers with identity and autonomy, amplifies sources of knowledge and establishes links between teachers, researchers and learners (Johnson and Golombek, 2002). Narrative inquiry approach suites well for the

teachers and others stakeholders due to its nature of studying the problems/issues comprehensively.

The narrative inquiry approach repeatedly gets focus from teachers and teacher educators. There are many reasons that turn the researcher towards the narrative inquiry. Firstly, there is a strong need of relationship between the researcher and the participants; secondly, it helps to change data from numbers to words. Thirdly, it helps to change from universal approach to local and then problem specific, and finally, it is a new method of research or epistemologies as compared to the traditional ones. Since narrative inquiry has gained the attention of educational researchers and teachers, but its definition is still vague.

The narrative inquiry has been defined by its exponents as the process which involves the renovation of a person's experience in relationship both to the other person and to a collective environment (Clandinin & Connelly, 2000). It manifests intense model through which they can examine the many facets of human experiences and the world is depicted through their personal narrations (Webster and Mertova, 2007). Furthermore, it attempts to collaboratively access participants' life experiences and employ it in a practice of reporting their story in order to uncover diverse meanings and aspects and lay out the valid interpretation of the given information/data (Leavy, 2009). The human experiences have their own identification due to its symbolic language and gesticulating, hence, provide a more vivid picture of the matter/issue.

In its soft touch of symbols and gesturing, narrative method of research values (a) signs (b) symbols and (c) expressions of feelings in the use of language and the symbol of (a) group change (b) causality and (c) social uniqueness. It

canvasses periodical reports, photography, letters, autobiographical writings, emails, messages and other records and videos regarding different social media channels (Marshall & Rossman, 2011).

The process of narrative analysis is appropriate for studying educational issues and problems concerning students' schooling life. Schooling process is not an entirely a science. It is also an art to study the student's behavior and action. The narrative inquiry provides a comprehensive approach toward the art of teaching and learning process. Therefore, teacher as a researcher cannot neglect the teaching and learning process as an art. The teachers attempt to utilize the narrative inquiry. There are four sorts of arguments about why narrative analysis is appealing to the educational researcher.

1. Firstly, it covers all aspects of persons' experiences, subjects and people' life stories for the solution of the issue.
2. Secondly, it investigates social histories that manipulate identity and growth by using narrative discourse and metaphors.
3. Thirdly, it formulates exclusive and integrated propensities with diverse strengths that organize and illuminate associations between individual and society.
4. Finally, it approves axiomatic phenomenon into the process of inquiry (Daiute & Lightfoot, 2004).

Thus, experiences and discourses in teaching may easily be narrated for others to improve the trends of professional association, ethical values in education and the development of comprehensive and moral personality of the learners. Educational narrative inquiry approach is equally constructive for

teachers as well as learners. The teachers get benefits from the stories of other experienced teachers to make teaching process productive, easy and simple for the students' comprehension and accomplishment. Therefore, teachers' knowledge of narrative inquiry approach is important to make their position strong. Thus diversified facets of educational research foster the quality of teaching and learning into the classroom for the teachers. So, it is coined as teachers' inquiry.

### 2.3.3 Teachers' Inquiry: Empirical Evidence

The effective instruction is reflective and aims at the constantly improvement for the educational achievements of the students (Robinson & Lai, 2006). Increasingly, classroom and school settings have become the focus of investigation of professional learning for the educational practitioners (Campbell & Groundwater-Smith, 2010). The professionals are being emphasized to conduct research in their own working experience and contexts where they are performing responsibilities so as they could truly solve local problems by their own. For this purpose, they must get knowledge and proficiency in carrying out local research and seeks its benefits.

Many authors concur that there is a synergy between research and practice for the practitioner and researcher. In that case, the practitioners engaged in research are more successful practitioners and the researchers engaged in practice are more successful researchers (Fox, Martin & Green, 2007). This kind of research is called practical research. Moreover, there are several terms which are used for practical research. These are as such practitioners' research, community-based action research, cooperative inquiry, self-study, emancipatory praxis, auto-

ethnography, social research and teacher-inquiry (Anderson, Herr & Nihlen, 2007; Baumfield, Hall & Wall, 2008; Greenwood & Levin, 2007). But, majority of the authors agree to the term of 'action research.'

Action-research is widely utilized in several fields such as health care, social sectors, psychology and particularly in teaching (Stringer, 2007). In fact, this unique piece of research has several characteristics as:

i. control of research questions and study designed by the teacher researchers;
ii. high quality support for research;
iii. robust processes of self-monitoring, critical reflection and evaluation;
iv. transparent procedures for dissemination and promoting debate of research conclusions; and
v. management of critical networks for making teachers' research finding public (Campbell & Groundwater-Smith, 2010).

This concept is further expanded in order to apprehend the teachers' inquiry to solve their problems locally through an organized and systematic way.

The teachers increase the following research characteristics by studying action research as to identify an area of concern that is related to instruction, formulate a research question for investigating, search the existing educational literature, collect data and evidence or information that are involved with the research question, make observation about the collected data, interpret the data, develop new teaching strategies, justifies the developed teaching strategies, and write up findings into coherent report (Henning, Stone, & Kelly, 2009). The intent

of action research is to enable the professional "to live in questions" for a particular period of time and ultimately define the ways to improve practice. The action research is useful for the teachers as a practical and sensible methodology for making classroom improvements (Tomal, 2010). Action research paradigms' generates field-based new knowledge to improve teaching practice. Therefore, the professional teachers always deem to espouse methodology of the action research.

There are a number of empirical studies and researches conducted around the world that support the concept of teacher as a researcher and use of action research. A study revealed that logical arguments which teachers used an inquiry process and it was considered as a powerful context for the professional development (Adler, 1997). A study concluded that impact of action research as learning tool not only fostered professional development by getting colleagues together but also carried modifications into the classroom interventions and discourses (Asimeng-Boahene, 2004). One more study suggested that in-service teachers should incorporate theory into practice and involved in research in order to develop a mindset necessary to cope with classroom's challenges that they may face on daily basis (Wang, Kretschmer & Hartman, 2010). It was reported in the research study that the differences exist among the aspiring teachers', practicing teachers' and professors' mindset towards research in the education to integrate the research and practice. It was concluded that teachers believed that the research knowledge was highly particularistic and it could not be falsified. The sample was comprised of the professors who considered that the educational knowledge could be generalized and falsified. The practicing teachers had remained in the middle of this continuum (Joram, 2007). The teachers' attitudes were explored in a study

which employed a three-part survey questionnaire. It was concluded that 68% teachers believed that educational research findings were seriously considered (Beycioglu, Ozer & Ugurlu, 2010). In this worldwide perspective of research and inquiry, a teacher should be a researcher who provides favorably strong evidences to the research question that raised in the study.

Particularly, in our local educational perspective, many teachers are far away from the idea of research. The policies and the National Professional Standards for teachers in Pakistan emphasize this obligatory practice of the teachers. Therefore, it is important to note that the classroom teacher is basically a practitioner and a researcher. He/she should focus what is needed in creating the conducive learning environment and what factors enhance the students' learning, innovation, creativity and imagination by adopting the research findings. He/she should not aspire to become expert in a research. That would be beyond the scope of his/her task. The global research also yields that an action research undertaken by classroom teachers lacks the needed quality both in process and outcome. In fact, the research is a reflective practice which has specific links with the development of the portfolio. The professional teachers become more reflective by adopting the portfolio.

## 2.4 Professional Portfolio

Professional portfolio of teachers is a height of reflection and learning to fabricate professional teaching practice and its positive effects on pupils' learning outcomes in the classroom (Carr & Harris, 2001; Colwel, 2006; Ginsberg, 2011; Jones & Shelton 2011; Roberts & Pruitt, 2003; Tucker, Stronge & Gareis, 2002;

Zepada, 2008). The major purpose of portfolio development is that it realizes teachers about professional accountability, reflection upon practice and professional development (Diaz-Maggioli, 2004; Salandanan, 2009; Sindarr, 2007; Tucker, Stronge & Gareis, 2002). It evaluates educational venture to review plan objectives, strategies, resources and outcomes that need to be applied in an educational assignment effectively (Payne-Palacio & Canter, 2011). It is purposive and competitive in character by contributing in practice and teaching innovations (Davis & Osborn, 2003; Frade, McMahon & Reeves, 2009). Reflection and professional development are two basic functions of developing teachers' portfolio in order to increase students' learning and teachers' professional development and competency.

Professional portfolio comprises several documentary and digital credentials such as documents, certificates, pictures, academic journals and self and peer reflections (Johnson, Mims-Cox, & Doyle-Nichols, 2010; Pietorni, 2001). It also encircles instruction for measuring pupils' achievements, curriculum, observational records, students grading designs, study assignments and guides, list of read-books, participation of curriculum designing and development, teaching performances and awards and commitment to the school community (Davis & Osborn, 2003; Seldin, Miller & Seldin, 2010). The models of lesson planning, purpose of professional growth, attended workshops, published work, student evaluation methods, design of standardized and teachers' made tests, professional associations, performance reports, and philosophy of personal teaching and pedagogy (Partin, 2009). Generally, a portfolio is

comprised of the following three main elements (i) introduction, (ii) artifacts and (iii) reflection.

Surely, it demands creativity for developing professional portfolio (Wyatt III & Looper, 2004). Its design focuses on (a) content (b) principles of organization (c) time frame and (d) individuals' participation (Collins & O' Brien, 2010). It is prepared according to the size, significance, format and content of the portfolio. There are many types of portfolios which are designed and developed according to the context of the profession. Whereas in education, the mix-up of these portfolios are arranged by the teachers however, experts recommended those portfolios in which the best performances and valuable accomplishments are displayed (Cyr & Muth, 2006; Frade, McMahon & Reeves, 2009; Friedman, 2012). The electronic-portfolio is a significant type of portfolio which is gaining fame in the teaching area context and it is commonly used by the educationists. There is a need to provide all internet resources to teachers to adopt this approach.

The related researches also narrate the significance of professional portfolio development in teaching. In a surveyed research, the participants completed the questionnaire in which their portfolios were reviewed and interviewed. The majority of the teachers reported that developing portfolio is a motivational tool for the development of teaching practice and performance. However, they narrated that it should not be an evaluative tool of teachers' performance (Lwo, 2003).

In another study, the use of professional portfolio was reported in the favorable terms. It was used in the professional training to critically analyze performance, monitor growth, point out discrepancies in development, and

particularly to enhance the self-esteem and responsibility. It was concluded that portfolios were mainly utilized for the professional documentation and had a high potential as a mirror of competence when used as a tool for self-evaluation and self-assessment of the teachers (Smith, & Tillema, 2001).

The findings of the study revealed that a well-designed portfolio may support quality learning through the incorporation of theory and practice, the promotion of self-evaluation, the professional autonomy, reflection and meta-cognition and workplace skills. Furthermore, the finding supported the utilization of portfolio as an instrument of assessment and foster generic skills (Jones, 2010). The empirical studies display that the professional portfolio development is now part and parcel component of the teaching reflection and performance design.

Portfolio development is a new aspect in the schools situated in Punjab and Pakistan as a whole. Teachers must make portfolios for the development in the profession and performance, revealing discrepancies in the classroom accomplishment and in the professional learning. The portfolio development must be linked with teachers' promotion and incentive. It must be assessed by head teachers while they are preparing the teacher's performance evaluation report. The monitoring team may be assigned to assess the portfolios of teachers. In many countries, it is considered as the evaluative tool of teachers' performance. This practice may be utilized in schools in the province of Punjab. Therefore, it may be regarded as a professional tool of performance evaluation of the teachers and further linked with refining the teaching practice. The question No. 2 is raised by this study about the teachers' dispositions and values to fulfill the needs of the

student. Furthermore, discussion highlights the teachers' values and attitudes regarding refinement of the teaching practice.

## 2.5 Refining Teaching Practice

Refining teaching practice is an inherent constituent of professional veneration and allegiance of teachers. Professional teacher pays high precedence to rectify practices. A big picture concept to refine practices has many components like (a) improve the learning environment (b) revitalize instructional planning (c) identify different learning modes (d) create linkage between new and previous contents (e) make learning durable (f) construction of knowledge through high level of creativity process (g) encourage collaboration (h) eliminate students' achievement differences (i) evaluation of learning through diverse techniques and (j) technological integration (Tileston, 2011). Rectification of teaching practice also includes:

a) taking responsibility for establishment of a constructive and engaging learning environment in the classroom,
b) planning the instructions based on students' needs.
c) facilitating the learner's through multiple ways in their construction and acquiring of knowledge,
d) developing and using teachers' made tests for continuous internal assessment of students' accomplishments,
e) provision of constructive feedback on students' learning and outcomes,
f) fair and objective assessment reporting to the students and to the stakeholders and

g) using all the educational and informational techniques and technologies to enhance the different aspects of teaching and learning (Govt. of Pakistan, 2009).

The key thematic areas of refining the teaching practice are now discussed in detail.

### 2.5.1 To Establish Constructive and Engaging Learning Environment

Professional teachers refine practices by creating constructive and engaging classroom learning environment that addresses needs of all the students. Learning environment facilitates teaching and learning process. The most important need of students is to become successful in their curriculum and co-curricular experiences, academics and learning. When they are provided an environment to develop their level of performance, they become successful due to constructive and engaging learning environment.

Constructive and positive learning environment enhances motivation for learning in the students (Alonsa-Tapia & Pardo, 2006). Learning occurs in an authentic environment. Students' intrinsic motivation and higher level performance is achieved through providing conducive environment (Akyol & Fer, 2010). The classroom learning environment necessarily involves safety, trust and relationships because they can fulfill basic needs of students and furthermore provide foundations for advanced learning project (Hart & Hodson, 2004). A safe learning environment is a pre-requisite in classroom to guarantee students that they will not be damaged during their course of action for getting experiences and

particularly developing attention towards teaching and learning (Downey, Steffy, Poston & English, 2009). The learning environment in classroom would be established keeping in view students' pressing needs and indispensable requisites.

Classroom environment is greatly influenced by the rapidly changing conditions and circumstances around the world. Professional teachers develop learning environment to understand the world of students that works best. Such environment completes personality of the students, makes learning easy for them, develops confidence, removes fears and stimulates meta-cognitive process of students (Wootan, 2009). The teachers construct positive learning environment to guide students who take it non-threatening and challenging (Koka & Hein, 2003). They keep in mind the mental, emotional and behavioral aspects of students and increase their developmental level, use suitable learning materials and methods and provide individuals an interactive learning environment in classroom for learners' academic achievements (Akkuzu & Akcay, 2011). Role of teacher is very delicate and significant in classroom learning environment, he/she unifies all activities, writes down students' learning experiences and provides environment that empowers students for participating actively in learning process (Wellhousen & Crowther, 2004). Learning environment may naturally be peaceful, participative and collaborative that supports learning aids and provides opportunities for students to learn something new novel fashion.

It engages students to feel ownership for learning; interacts with other peers; provides solution to problems and use of innovations. Positive class environment builds positive learning, while on the other hand, negative environment hurdles the students' learning. So we can say that positive learning

environment is equal to the positive attitudes of both students and teachers (Villlereal & Simmons, 2010). Thus, professional teachers increase learning outcomes by building a challenging, caring, encouraging, collaborating, exploring, and enjoying learning environment in a classroom. These characteristics of learning environment cannot be attained without planning the instructional methodology.

### 2.5.2 To Plan Instruction Based on Students' Needs

Another critical factor that is the basic requirement of professional teachers is to refine the planning approach for addressing the students' learning needs in the classroom setting. The planning of instruction which is based on students' needs gives a guarantee to the teachers' effectiveness and outstanding learning accomplishments. A week teaching approach has been linked with unplanned procedure of instruction. Learning does not occur by chance, particularly in the classroom. It requires meaningful and skillful planning (Butt, 2006). The effective instruction requires detailed lesson planning before entering into the classroom. Lesson planning affects students' learning and behavior patterns. Therefore, teachers must carefully and thoughtfully plan each and every moment that will be spent with the students.

It is an effective tool of positive and constructive teaching which provides guidelines, determines the direction of teaching and learning, and instills confidence in the students and the teachers. Furthermore, lesson planning determines the systematic design of the unit and provides step by step guidelines

that support the achievements of learning outcomes and directly treats therapeutic measures of students' learning disabilities in the classroom setting.

Essentially, it is a psychological way of envisioning future learning outcomes and different methods to achieve, drawing learning developments. It is a teaching tool which needs arrangement, condition, situation and activity for an organized development prior to instruction and comprises assessment and evaluative element (Mishra, 2008). It is a comprehensive approach which includes (a) methods (b) cognitive, affective and psychomotor objectives (c) learning aims (d) content that considers students' needs (e) individual differences (f) link the students with previous knowledge and skills (g) bond to whole year scheduling tasks (h) supported with learning resources and (i) considered ways of evaluating students' performance (Jonson, 2002). It requires "what to teach and how to teach" approach. The lesson planning varies according to the context and situation. Generally, it considers (i) selection of learning activities (ii) learning objectives (iii) content (iv) students' age (v) time for teaching and (vi) instructional strategies (Orlich, et al. 2010). Simply, it comprises the planning of presentation and assessment of the lesson.

Some basic components of lesson planning are (a) objective (b) content (c) method of instruction and (d) evaluation of the lesson (Butt, 2006). Detailed description also includes (i) the title of the unit (ii) relevant content (iii) learning outcomes (iv) aids (v) teaching components (vi) summary (vii) questions and (viii) evaluation design. It also involves the analysis of the teachers about unit (Mishra, 2008) keeping in mind the principles of planning. Some principles of lesson planning enhance professional teachers' skills. There are the principle of

(a) objectivity (b) simplicity (c) standardization (d) balance (e) relativity (f) utilization of resources (g) importance (h) regularity and (i) flexibility (g) parsimony (Shaw & Kaushik, 2009). Thus, professional teachers always try to address the students' needs by refining their lesson plans and activities before entering the classroom. They may make their plans successful by facilitating the students in the classroom setting.

### 2.5.3 To Facilitate Learner in Acquiring and Applying Knowledge

To meet the learners need to acquire, understand, apply and produce knowledge, the professional teachers facilitate them through multiple creative and skillful ways. For this purpose, they refine their instructional practices. The teachers and learners take learning as a challenge. To accept this compelling challenge, teachers act as facilitators when they facilitate learners. Facilitating is a process of making learning easier for learners. They achieve their learning goals, show motivation for learning, cooperating with peer, and specially enhancing comprehension in the content and moreover monitor learning developments (Camp, 2004). There are many important techniques as (a) explanation (b) questioning and (c) quizzes which facilitate the learner to acquire the knowledge.

a) Explanation is a technique that is mostly used by the teachers to facilitate learners in the classroom. Complex and more technical nature of knowledge/subject contents require explanation for the learners. Generally, it urges conceptual comprehension of the learners to foster thinking and imagination (Berthold, et al, 2011). The teachers provide proper explanation and reasons to bring clarity of the content to the learners.

b) An additional technique applied to facilitate the learner is questioning. The teachers engage learners in content in order to develop comprehension and probe. Appropriate uses of questioning technique facilitate learning process and create higher level of understanding and application of content in the novel situation (Nicholl & Tracey, 2007). Questioning is now considered as a significant teaching skill that affects learners' achievements. Classroom questioning improves students' specific knowledge of a subject but now it also enhances and develops learning conceptually. It develops deep understanding of content (Pagliaro, 2011). Through questioning teachers clear content difficulties and provide new information to learners. In order to handle questioning, it is necessary to hear the questions carefully, acknowledge its status and reply it. moreover, confirm its acceptance (McAedle, 2010). The teachers refine their practice through improving questioning skill.

   A different technique is giving autonomy and empowerment to students learning instead of replying all the questions. Highlighting those skills in the students that are helpful in achieving learning objectives; seek sources that fulfill their objectives and further analyze and apply learning (Zachary, 2000).

c) An additional technique is quizzes in the groups of learners. It motivates and enhances students' performance. It builds and refreshes information among students (Clinton & Kohlmeyer III, 2005). The teachers may take many teaching and learning benefits from quizzes.

Therefore, the teachers need to utilize these techniques in their classroom to make teaching and learning more attractive and productive for their students in the classroom setting in order to acquire and apply the knowledge. Despite these facilitation functions, professional teachers facilitate their students through assessing their performance. The assessment process is also the beneficial way to value the students' knowledge and comprehension of the content they learnt.

### 2.5.4 To Assess Students' Accomplishments

Development of schooling may remain ineffective if it does not assess the accomplishments of learners. Assessment combines an extensive and imperative theory and practice for the teachers and the students and also useful for the parents and other stakeholders. Assessment is a process of making judgments about the students' academic performance. It includes teachers testing, written and oral questioning and homework assignments, portfolio assessment and project evaluation. Thus, assessment of students' learning is very vital component of teaching and for making decisions about their learning needs in the classroom and career.

To augment learning of students is a major intention of teaching process, for this purpose, assessment is used in the classroom setting. Assessment has an extensive character in maturing comprehension of the students (Weeden, Winter & Broadfoot, 2002). It is an organized set of information approaching time, knowledge, skills and available resources to manipulate students' learning as a result of decision making (Walvcord, 2010). Assessment in the classroom is a process of examining, investigating, and interpreting of evidences to make

judgments of the students' achievements (Phelan & Phelan, 2010). The teachers finalize various decisions concerning their professional practice for guidance, comprehension and improvement about individual and groups of students. It comprises of (a) teaching content (b) students' needs (c) attitudes and (d) learning habits. Assessment is based on data collection strategies with planning and particularly adopting planned procedures in the classroom.

Classroom assessment focusses upon the students' learning outcomes, interpretation of methods of content transformation and strategies that provide accurate and valid information, and specially alignment of objectives, instruction and measurement in order to achieve successful instructional process (Airasian, 2002). In this respect, four benchmarks are determined to evaluate the learners in the classroom.

Firstly, assessment modus operandi must be legal, ethical and endorse the students' learning. Secondly, it must be timely, informative and functional for the students. Thirdly, it must be planned and practical that provides support pertinent to students' achievements. Lastly, it must depict the accurate information and produce logical outcomes and appropriate feedback about students' learning (Gareis, & Grant, 2008). Assessment in the classroom has different concerns (i) previous knowledge assessment (baseline) (ii) in-progress knowledge assessment (formative) (iii) analytical assessment (critical) and (iv) cumulative assessment (summative).

Several tools are being utilized in the assessment process as (i) portfolios (ii) homework (iii) teachers' tests (iv) quizzes (v) projects and (vi) standardized tests (Glanz, 2004). The classroom assessment is a valid and reliable tool that

gives right directions for teachers to modify teaching plans in the light of acquired information while at the same time enhance and evaluate students learning and accomplishment. Teachers must develop essential skills in the area of assessment to augment their professional practices in the classroom setting for improving the students' learning behavior. However, assessment may be unsuccessful without providing the constructive and productive feedback. Feedback is an essential unit of the teaching practice in the classroom to improve students' learning outcomes.

### 2.5.5 To Provide Constructive and Productive Feedback

Primarily, feedback delivery and reception is a basic teaching and learning need both for the teachers and the students in the classroom setting. Feedback provision on learning is an extended form of guidance to the students that corrects the students' mistakes, resets their goals of learning, motivates for improvement. develops further learning, builds up confidence and promotes academic achievements. It is a developmental tool through which teachers deliver learning guidance to the students.

Effective feedback delivery spurs students for achieving meaningful goals and determines objectives of learning tasks. The students need feedback for producing evidences of achievements. It is necessary that the students' attempts for accomplishment must be appreciated by the teachers during the process of feedback. Therefore, the students' development and growth is needed to be acknowledged and praised by the teachers in feedback provision. It is necessary to provide opportunities for the learners to reflect on their achievements and consider the next steps for improvement.

Clear feedback is needed for the students by the teachers (Donhouse, 2011). Feedback may have different format which is considered during conveying the process. The motivational feedback is passing on when teachers accelerate students' performance. It may be positive and negative because both provide benefits. An informed feedback is conveyed when teachers measure students' educational achievements. The developmental feedback is given when students need more improvement in the performance (Sprenger, 2005). The feedback texture is mainly based on the teachers' knowledge, skills and attitudes. The teachers' feedback skills are developed through rigorous training (Schartel, 2012). These various forms of feedback provide improvement in teaching which lead to students' performance.

To improve the students' performance is the ultimate objective of the pedagogical design/program. The introduction of instructional and informational technologies is the concern of the teachers to improve students' performance. For this purpose, teachers use the ICTs in their classroom practice. Therefore, the modern era demands teachers to integrate the ICTs in their tutelage programs/practices.

### 2.5.6 To Integrate Informational Communication Technologies with Pedagogy Based on Students' Needs

Many societal changes are happening in the societies as a result of information and communication technologies (ICTs). It is inevitable to keep aware the individuals about these digital technologies. The ICTs is the collection of digital tools and resources that record, process, research, transform and receive

information. These hi-tech devices involve computer, internet, radio, TV, cable, films, telephone, fax, tabs and mobiles, etc. The information and communication technologies (ICTs) and other media greatly influenced teaching and learning process. There is a paradigm shift in the pedagogy and the tutelage because of emergence of ICTs in the classroom. The teachers who regularly use the ICTs depict that the roles of teacher have been changed resulting from the introduction of ICTs in the academic set-up. The first role which the teachers can perform is to distribute the knowledge as assessor; the second role is to stimulate the learning as a motivator and finally, the role of the expert as a material developer (Uibu & Kikas, 2008). It is important to introduce ICTs in the classroom practice. For this purpose, well schemed ICTs enriched training program would be managed for the teachers' professional development. The utilization of ICTs training programs have been wide spread concept that attempts to facilitate teachers' professional development and integration of the technology with pedagogy for the improvement of students' knowledge and potential.

It is reported that in-service teachers narrated that the ICTs has impacted significantly on their professional attitude and skill (Karagiorgi & Charalambous, 2006). The technologically blended learning contributes significantly to in-service training particularly in a resource constrained context which produce impact on classroom practices and helps the teachers' professional development (Shohel & Banks, 2012). The information and communication technologies (ICTs) have been used in education in three ways (i) as a subject (ii) as a helping tool and (iii) as a catalyst for transformation (Rodrigo, 2003). The ICTs have significant position in the modern didactic trends and learnings. ICTs have made transformation and

understanding of information knowledge more candidly straightforward for the instructors and learners. It not only provides support to teachers but also fulfills students' needs and interests. Therefore, the use of the information super highway and the integration of the technology with pedagogy is necessary requisite of the teaching and learning process in the classroom setting.

Learning the new technologies can help the students to comprehend course contents, increase relationship with the teachers and intensify for tasks achievement and it also leads to achieve the better learning patterns (Govender, 2010; Selwyn, Potter & Cranmer, 2009). The ICTs are useful for individual and group learning in a number of ways. They make (i) the comprehension of complex ideas and concepts easy (ii) stimulate self-learning and self-evaluation (iii) improve analytical and innovative skills (iv) access to information without time and location (v) construct better personality (vi) acceptance of individual assignments (vii) foster inquiry-based behavior and (viii) collaborative based learning (Bidarian, Bidarian & Davoudi, 2011). It determines easy access to subject knowledge, motivated reflection and better learning (Rogers & Finlaysen, 2004). The professional teachers cannot consider achieving teaching targets and students' development devoid of adopting integrated formats of ICTs.

The students respond positively towards mixed mode of teaching and learning including ICTs in the classroom (Govender, 2010). Although it is not a substitute of poor teaching yet it provides significant assistance to the instructors to improve the teaching tasks. The teacher is the single most factor that is responsible for the course quality and a help to acquire knowledge and skill for performing tasks. Teachers need to be aware of educational effectiveness and

technology-based teaching and learning (Adams, 2004). The teachers can utilize ICTs to (i) design the lessons plans (ii) extract content material (iii) choose teaching helping aids (iv) manage students' friendly learning environment (v) employ diverse teaching methods and strategies (vi) manipulate appropriate assessment techniques and (vii) specifically carry out teaching inquiry through machine information. The ICTs focused on learning environment has emerged as the new phenomenon in the classroom that facilitates teaching and learning tasks.

The ICTs-based learning environment is a latest approach which has developed on empirical investigations to provide guidance to the students for effective learning experiences. It also involves opportunities for the students to apply their knowledge in complex contexts and substantial activities (Sneel, 2011). It is also used to assess the students' understanding and this procedure has greatly influenced on teaching and learning process. So, the ICTs have immense potential to evaluate and measure the students' development in the classroom setting (Jones, Cowie & Mareland, 2010).

Different research evidences support the notion of employing the ICTs for the teachers' development. The low levels of integration of ICTs within professional practice have been reported in the research because there was lack of knowledge and skills relating to the application of ICTs within the professional context of the educational set-up of Pakistan (William, Coles, Richardson, Wilson & Tuson, 2000). Thus, there is a pressing need that teachers should be provided knowledge and training in core domain of teaching such as pedagogy, methodology, technology, assessment, communication and values so that the

teachers integrate ICTs in the classroom practice for successful students' learning projects.

The classroom practices and students learning are improved through collaborative activities; particularly collaboration with the colleagues and other stakeholders is more effective for this purpose. The disposition of collaboration is highly appreciated in the teaching to improve the teaching and the students' learning. In this perspective, National Professional Standards for Teachers in Pakistan emphasize collaboration among teachers, experts, peers and veterans. The question (RQ2B) is about the collaboration among teachers. The coming discussions highlight the teachers' collaboration with the colleagues.

## 2.6 Teachers' Collaboration with Colleagues

Incidentally, teaching has become a profession that utilizes the concept of collaboration minimally. Although there is a fact that teaching is a profession of relationships with students, administration, parents, experts and colleagues in order to improve the students' academic achievements and school performance (Anderson, 2010; Blank & Kershaw, 2009; Derry & Schunn, 2005). Therefore, there is dire need to develop the teachers professionally so that they could cover collaboration aspects of educational process.

Collaboration in teaching is intentionally happening event of group associates for sharing some mutual objectives in the school. It builds trust and confidence in an organization to facilitate quality assurance and assist schooling, teaching and learning, students' needs and achievements (Engelbrecht, 2004; Gottesdiener, 2002; Honigsfeld & Dove, 2010; Jarman & McClune, 2007;

Kochar-Bryant & Heishman, 2011). The procedure organizes teachers' continuous learning, exchange of successful ideas and observations and construct of reciprocal feedback with colleagues that groom their specific behavior, and professional development of teachers and parents participation (Mazur & Doran, 2010; Meirink, Imants, Meijer & Verloop, 2010).

The collaboration with colleagues needs different and diverse communication and inter-personal skills and competencies such as taking and giving information, reinforcement and feedback because it develops positive way of thinking, open-mindedness and excitement for the learning emotions (Perry, 2004). In fact, collaboration with colleagues demands respect, honor, dignity, rights, values and authority of associates for collaborative activities.

There are many versatile activities of collaboration such as consultation, cooperation, teaming, co-teaching and webbing that are embraced accordingly the context (Murawki, 2009). The open and civil discourse and the alternative interpretations of pedagogical issues enhance analytical judgment, critique, experimentation, inquiry and communication of teachers within the sphere of collaboration that provide rewarding edge to teaching practice (Loughram, 2006). It may include such role as participant, site-based designed working associations, reforms at school level that improve pedagogy in the classroom setting (Collay, 2011).

Thus, the schools should plan a day of collaboration for teachers in which the purpose, structure, training and support for personnel manifest for cooperative activities (Smiley & Salsberry, 2007). However, the main hurdles to collaborative practices of teachers are the lack of time and workload (Saric, 2006; Weindling,

2005). These obstacles hamper teachers' collaboration in primary and elementary schools. Therefore, these hindrances should be removed through the more support by the educational authorities, more classroom assistant and less classroom contact time. It was reported that the highly positive attitude of students was observed in the schools which promoted policies and strategies of collaborating with colleagues (Loughram, 2006). The effectiveness culminates in collaborating working.

The collaboration with colleagues is highly powerful and appealing attribute of professional development of the teachers. A number of studies highlight this prominent aspect of professional teaching. An exploratory study revealed that teachers' learning occurred within different collaborative settings in schools. It was suggested that the high quality team meetings could be a powerful technique for teacher learning and development (Doppenberg, Bakx & Brok, 2012).

A group of three science teachers belonging to same elementary school worked together in a study which focused on investigating the impact of collaborative reflection on teachers' inquiry, teaching practice and identified supportive activities for their professional development. It was found out that the workshops sessions, discussions with the colleagues and reflective observation of collaborative teachers acted as initiative and facilitative agents for the teachers' professional development (Lin, et al., 2013).

A study was carried out to explore the characteristics and predictors of teachers' collaboration, through mixed methods research design. The teachers reported that they worked together once or twice per month, generally with

colleagues about students-centered topics and collaboration was more valued in decision making (Sawyer & Rimm-Kaufman, 2007). In Portugal, a study was conducted to investigate teachers' collaboration and professional development in the workplace. The formal meetings at school were identified as the main component of teachers' collaboration (Forte & Flores, 2014).

The research has provided evidences that majority of mainstream school teachers did not fully collaborate. Therefore, it was recommended that future studies would be conducted to analyze the responses on a large scale and direct teachers training and an in-service support for the teachers and the schools collaboration (Dreyer, 2014). The empirical studies mention that collaboration activities such as inquiry, peer observation, discussion, and reflection are useful parameters for improving classroom practice. The school and classroom environment is suitable for teachers' collaboration.

The teachers in our setting do not utilize these activities to improve their practice. It is the responsibility of administration to provide facilities to all school personnel for openly collaborating with their colleagues to solve their problems and improve professional learning.

Collaboration is a reflection in nature on pedagogical issues and problems. Reflecting upon teaching practice is the fundamental feature to improve the tutelage process in the classroom environment. The question (RQ3) is about the teachers' development in the domain of reflection. Therefore, keeping in mind the importance of the reflective practice, the next discussion highlight the concept of reflecting upon teaching to improve potential of teachers' work and tasks in the classroom setting.

## 2.7 Reflective Practice of Professional Teachers

Reflective practice is acknowledged as a fundamental and important element in education. It is a tool that is used for personal and professional development of teachers to resolve quandaries of teaching practice (Harris et al, 2010; Kilminster, et al., 2010). It is also considered as an important part of professional behavior of teachers (Distad & Brwonstein, 2004). It develops (a) practice awareness (b) personal assessment (c) constant learning and (d) professional recognition (Trade & Smith, 2012). It is investigative, determined and innovative way of achieving in-depth knowledge and better comprehension (Ghaye, 2011). In practice setting, teaching and learning process are inextricably associated and, as such, reflection is obviously a significant pedagogical imperative (Dimova & Loughran, 2009). Therefore, professional skills and values concerning teaching practice among teachers are developed through reflection.

The word reflection is derived from Latin word "reflectere". The lexicon meaning of this word is "thinking or pondering". For teachers, reflection means teachers' thinking and pondering over teaching activities that develop his/her practice (Rushton & Suter, 2012). Reflection is blue-chip process in order to enable teachers to (i) identify (ii) analyze and (iii) manipulate complex classroom phenomena (Shoffner, 2008).

Reflection also fosters teachers' classroom practice, students' learning and links it with teaching and learning process (Christie. 2007). It is the simplest definition of reflective practice that displays teacher's role as a reflective practitioner who has conscious intention to examine his/her job critically for

improving teaching practice and enhancing students' learning (Akbari, 2007). The concept of reflection has intrinsically been stated teacher as a reflective practitioner by Dewey (1933) and further introduced by Schon (1983). Moon (2000) also supported this concept of teacher as reflective practitioner who is an individual and is simply thoughtful regarding his/her practice and working.

### 2.7.1 Major Characteristics of Reflective Practice

It has many characteristic such as:

1. Reflection as a personal knowledge includes the category in professional and teaching practice for improving the skill and potential of instruction.

2. Reflection as a tool of conversation that uses the experience, modifies learning and enables an individual to search a completely constructive and personal meaning in a situation.

3. Reflection as a symbol of change that triggers elements of change that supports the change process.

4. Reflection as a continuous process that embodies creative ideas and functions (Burnard, 2006).

5. The reflective practice guides a person to acquire new learning (Davis, 2003).

6. The reflective practice facilitates in higher order cognitive traits such as the know-how about the latest information technologies and its understanding, facilitation of logical analysis, problem solving and decision making process.

7. The reflective practice establishes self-awareness and develops skills for critical judgment within professional environment.

8. The reflective practice as a process of development that leads to make practice competent and effective (Donaghy & Morss, 2007).

9. It also serves as a sustained learning, assessment and growth of aptitude (Murphy, Halton & Dempsey, 2008) for teaching in the classroom setting.

10. As the aims of education and how to address them in the teaching practice.

11. As the commitment to monitor, evaluate and reframe continuously teaching practice and skill.

12. As the reflection produces open-minded, responsible and inclusive attitudes in the teaching behavior.

13. As the capacity to reframe their personal teaching practice in the light of evidence based on reflection and insight based on others empirical researches.

14. As the dialogue plan and process with colleagues to observe and discuss the merits and demerits of teaching for the improvement and development.

15. As the potential to mediate and ponder over some externally developed framework and conflicts (Craft & Paige, 2011).

16. The reflective practice means to magnify personal and professional virtuosity (Husu, Toom & Patrikainen, 2008).

On the basis of these characteristics, it is said that reflection is a fundamental component of teaching potential and practice. However, the process of reflection depends on it types in school and classroom setting.

## 2.7.2 Types of Teacher-Reflective Practice

Teacher-reflective practice is an ongoing process which requires teachers' positive thinking, before, during and after teaching. Prominently, two types of reflections (i) in-action reflection and (ii) on-action reflection have been described (Schon, 1983). Reflection-in-action involves teacher's reflection on the problem while teaching in the classroom setting. A practicing teacher confronts with the situation which he/she perceives as an exclusive and comprises of some component of amazement. It is an individual activity. The written repertoire is a useful technique for engaging teacher to handle this type of situation. This type of reflection is particularly deemed as action research (McGregor & Cartwright, 2011). Reflection-on-action involves teacher's reflection after doing job. A teacher gets involved in posteriori of the event. It is a group activity and is exercised collectively. It is a post-site activity.

Further, two types of reflective practices are described such as reflection-for-action and reflection-with-action. Reflection-for-action involves teachers' reflection for some particular reasons or purposes whereas reflection-with-action is a deliberate action for future individually or collectively (Ghaye, 2011). The teachers can use the reflective practice according to the context and timeline. These four types of reflections sufficiently engage the teachers in the different reflective practice activities for the development.

### 2.7.3 Activities Engaging Teacher in Reflective Practice

The studies point out the different reflective activities appropriate for the teachers in school. These may include writing in the journal, professional diary, observing peers, and recording the videos of teaching practice. Engaging teacher in these activities fosters teacher ability on reflecting the job of teaching. The detail is given now.

#### 2.7.3.1 Journal Writing as a Reflective Activity

The journaling is the most appropriate method of engaging teachers in reflective practice. It is a simple way to document and reflect upon their practice in journals. The journals writings chart teacher' development and provide an extra awareness concerning encountering experiences. It serves many purposes for the teachers such as reporting critical events, posing questions, resolving problems, constructing relationships and developing life patterns and themes, to examining personal biases and prejudices in the teaching and learning process (Larrive, 2000). It indicates the links between theoretical knowledge of teaching with actual practice of teaching and it specifically helps in constructing innovative strategies of teaching and learning (Chitpin, 2006). Reflective learning journals are identified as a powerful tool for developing proactive learning.

The writing in journals boosts teachers' analytical reflectivity and spurs perception of the nature, theories and praxis of teaching (Tsang, 2003). The use of journal writing is considered very effective for developing critical reflection in the teacher (Barta, 2004). The teachers, particularly at primary level, consider writing in journals very challenging. And there are some constraints such as lack of time,

program design and approaches to introduce reflective practice activities for the teachers (Otienoh, 2009). Reflection in journals is adopted suitable activity for in-service teachers to enhance their professional skills. This purpose is achieved through writing reflection.

### 2.7.3.2 Written Reflection as a Reflective Activity

The written reflection is also more central to reflective activity in teaching. It actuates assessment of previous practice, individual faiths and knowledge and particularly development of new viewpoint (Kember, et al, 2008). The teacher addresses specific framework for decision-making and professional practice in different structured and unstructured descriptive writing.

The reflective writing corresponds to teachers in judgment about and making sense of teaching (Gadsby & Cronin, 2012). Reflective writing can be fostered through DREEEA self-assessment model. This model states six levels of reflective essay such as (i) describing (ii) reacting (iii) explaining (iv) evaluating (v) exploring and (vi) acting. The teachers, purposefully, enhance competency in writing reflection through this model because they have to engage in this process during their teaching career.

A study was carried out in Taiwan on twelve in-service teachers to reflect upon teaching via journal writing. The data were collected through journals entries and semi-structured oral interviews from the participants. It was concluded that critical reflection as teaching inquiry helped teachers' deal with circumstances of ambiguity, unpredictability and value conflict in multiple settings. The critical reflections enhanced teachers' beliefs in their practices in the classroom (Feng-

Ming, 2013). Many types of writing such as (i) free writing, (ii) independent writing, (iii) open-ended writing, (iv) focused writing and (v) supported writing (vi) creative writing and (vii) professional writing are emphasized in the article for the reflective practice of teachers (Vladimira, 2001). Therefore, the writing as a critical reflective activity is now deemed much important for the teachers' professional learning and practice. In this respect, writing the professional diary is being exercised at the school level.

Writing professional diary is another important technique to critically analyze the teaching practice. A professional diary is also called a reflective diary. It is a means of keeping-records and reflections of the teachers. Keeping professional diary is considered as the qualitative or narrative ways of reflection. There is a freedom for teachers to write and express in their own individual and idiosyncratic ways. A professional teacher expresses his/her own feelings, impressions, aspirations and interpretations for his/her professional development (O' Hanlon, 2005). In a study conducted in Sweden, teachers found that writing the professional diary was useful for observing their own teaching practice and helpful for collaborating with researchers (Ronnerman, 1996). Thus, professional diary provides teachers' reflection on pedagogical practice.

Specifically writing can promote confidence and improve the quality of analysis for personal axiological viewpoints and developments. Particularly, the elementary teachers value all aspects of writing which incorporate in the classroom (Simmerman, et al, 2012). The reflective activities thus cover a wide range of teaching skills for improving teachers' creativity in professional behavior including videotaping their practices.

### 2.7.3.3 Video Recording of Teaching Practices

Videotape-recording has gained an essential status of the reflective process in the contemporary era of modern technologies. It helps the trainee to understand his/her own performance. The classroom activities can be recorded with minimum disturbance to the teacher and the students. It provides instant and accurate feedback of classroom interaction (verbal and non-verbal) in the teacher's natural habitat and thus provides a basis for reliable analysis. The effectiveness of videotape-recording and playback techniques have been confirmed in a number of studies of teacher training and in related areas such as counselor training and counseling, psychotherapy and human relations.

The advantage of videotape recording is that the recording allows feedback to be given in relation to specific behaviors and students are able to see what mentors see, also making the teaching sessions more focused on individual characteristics (Fry, Ketteridge & Marshall, 2003). It is concluded that videotaping and reviewing real-life teaching scenes have promised for encouraging critical reflection on classroom practices (Ethell & McMeniman, 2000). It would be helpful to provide beginning and in-service teachers with the opportunity to carefully observe and reflect on the complexity of the work done by effective teachers in their classrooms.

Reviewing videos of effective teachers and discussing their practices with collaborative partners or by videoing themselves as they teach and then reflecting on their teaching might do this. The benefits of video-recording in the teacher's training are numerous and have been well documented. The video provides a

natural medium for enhancing the sense of context and realism in case studies. It can capture the complexity of classroom interactions and allow students to replay events and thus they see important features of their teaching skills in order to improve the practice and competency in teaching and learning process. It also provides vast amounts of rich detail using images and sound that capture the immediacy of real classroom that all students can draw upon as common examples of authentic assessments and experiences (Newhouse, Lane & Brown, 2007). As a result, videotape recording has significant impact on the trainees and the teachers in the classroom in order to critically analyze their practices.

Reflection on practice is now deemed as an essential component of practicing teachers so that they integrate critics, theory and practice to refine their skills in the classroom setting. A number of studies highlight this phenomenon of teaching. A study was conducted to compare the beginners and experienced teachers' perceptions of the usefulness of reflection for practice. Twelve beginner teachers and twelve experienced teachers were interviewed. It was found out that both the groups embraced reflection as a tool to analyze and modify the teaching practices (William & Grundnoff, 2011).

Furthermore, the research was conducted on four teachers for identifying the bumpy moments in complex teaching act which required engaging teachers to make critical decision about how to react problems in practice. Ninety bumpy areas were identified. The findings showed that these bumpy areas should be utilized in teaching reflective practices and ongoing practicing teachers professional development (Romano, 2006).

Another empirical study explored that the reflective practice could be provided through in-service training programs. This research employed the interview technique to find out the conclusions (Andreas, 2011). It was also concluded that reflective practice could be and should be taught for the teachers' professional development (Russell, 2005).

In the context of Pakistan, particularly, in Punjab, teaching is considered a very relaxed job. The government tries to hire very intellectual and well-qualified teachers every year on merit basis. They are recruited as teacher in the public sector; after they get selected, they deem that, they have no need to improve practices, behavior and knowledge within the new trends in the educational setting. For changing their attitude, reflective practices should be managed through in-service training in order to focus on their teaching profession. To accelerate the quality of the entire educational environment and teachers' professional mindset, the professional standards have been established and there is a dire need to follow them.

## 2.8 Professional Standards for Teachers

Professional standards for teachers are the stakeholders' expectations on acknowledged measure of teaching. They are significant means of producing highly committed teachers and revitalizing extent of teaching profession. Standards are explicitly mutual and promising building block of various professional communities such as engineering, medicine, communication, media and teaching, etc. (Chroinin, Tormey & Sullivan, 2012). The standards are extensively utilized in the teacher training programs both pre-service preparation

of teachers and in-service teachers training, particularly for beginners and veteran teachers, for the professional development.

Role of standards is exceedingly imperative in reconstructionism philosophy and in this competitive and modern era. Professional standards for teachers provide vision to teaching and learning permeate excellence in instruction, ensure value of schooling production of quality teachers, tool for teachers' appraisal, credentialing and developing insight of ends of education (Audet & Jordan, 2003; Mayer, Mitchell, Macdonald & Bell, 2005; Santoro, Reid, Mayer & Singh, 2012; Tosh & Rayburn, 2004). They sustain teachers' responsibilities inside and outside classroom and school. Therefore, teachers' talent is improved by introducing professional standards. Communities of business, technology and knowledge demand standard-based culture in their department for function and production (Sirvan, 2000).

Briefly, the culture of standardization is required in education to meet demands of associated fields of professions. Teaching standards are significant means of producing highly committed teachers and revitalize extent of teaching profession. They modify teachers' mind-set in two ways. Firstly, they develop collectivism independent of individualism. Secondly, they focus on practicability rather than theoretical dimensions of education (Kriewaldt, 2012). The standard has different characteristic as a guide, tenet, model, criteria, value, principle, measure of unit, act, process, method, practice, competency, function, duty, right, liability, approach, performance, theory and expectation.

It also serves as a framework of decision making, produce quality and improve efficacy of relevant profession (Locher & Strussler, 2008; Sirvan, 2000).

The professional standards of teaching are the declaration of professional attribute and skills (Spooner, 2011). They concentrate on knowledge, beliefs and strategies representing good teaching in the classroom setting and specially account for the teaching profession and job (Brumbaugh & Rock, 2001; Griffin, 2002)

On the basis of global perspective, the standards adopt specific format of three essential domains such as (i) knowledge and understanding (ii) performance and (iii) attributes regarding profession of teaching. An effective teaching profession requires teachers' information, talent and ethics concerning structure of the subject, curricular and pedagogical contents, instructional planning, learning and human behavior classroom management, assessment and measurement and ICTs etc. (Alkharusi, Kazem & Al-Musawai, 2011; Drake & Burns, 2004; Lunenburg & Ornstein, 2012; Tuckman & Monetti, 2011). Equipping teachers with these compelling credentials is essential requisite of teaching profession.

In the educational set-up of Pakistan, the National Professional Standards for Teachers (NPST) have been published in 2009. There are ten standards for teachers in this booklet which covers all aspects of modern teaching profession. This achievement promotes the professionalism in the teaching and pedagogical occupation. However, it is still an ignoring document which needs attention of professional organization to implement these standards for the teachers' development and potential. Conclusively, it is incumbent for professional agencies to pass teachers in all these professional standards in order to accrue real gains of professionalism in teaching.

## 2.9 Educational Programs Managed by Professional Educational Organizations

Professional educational organizations form main hubs of transforming knowledge, behaviors, crafts, attributes and ideals among in-service teachers engaging through different professional activities concerning teaching practice and learning. An organization is a body of variety of experts operates synergetic functions in order to achieve a goal. It is a finite system of organized social affiliation characterizing authority dealings sets of communication and employs benefits (Champoux, 2011). The professional organizations of teachers provide advantages such as the professional development programs, educational enrichment and relationships with teachers' networks at all levels (Clement, 2003). They are vital for developing verve, circulation of ideas and theories required to accomplish a robust profession (Matthews, 2012). They also provide platform to members in order to create relationships for sharing ideas and updating their practice according to the latest information and empirical investigation.

In addition, these organizations transform regulations and positive functions that frequently influence members' job related practice (Contento, 2011). There are different types of professional organizations. These organizations have wide range of purposes in nature and function. The specialized educational organizations have been categorized into three classes such as (i) subject-centered (ii) student-centered and (iii) profession-centered.

The subject-centered educational organizations focus on teachers' knowledge pertinent to content and methodology of specific subjects. These subject-centered organizations generally arrange conferences at regional and national levels; that circulate professional issues regarding methods, current resources and researches of teaching practice. The student-centered educational organizations concentrate on students' needs and rights. The profession-centered professional educational organizations cogitate especially new practices, policies and trends in educational perspective. These are large in numbers and members. These organizations focus on developing the teaching profession (Ornstein, Levine & Gutek, 2011). Some professional organizations determine professional standards and its manipulation in the discipline, while some have included variety of programs such as arranging workshops, training sessions, journals and book publishing, etc. (Sadker & Zittleman, 2007). Frequently, the professional organizations publish newsletters and journals in order to disseminate relevant articles for updating their members' understanding of practice and learning.

Some organizations have started publishing online content through internet with the advancement of technology. They also arrange annual-based conferences to convene and renew professionals' collective spirit about teaching practices (Rogers, 2011). There are several professional organizations for teachers such as universities, colleges, schools, public and private institutions. Some educational institutions manage their professional activities inside their entities.

Universities and colleges are those organizational entities that connect professionals of every field (John, 2009). Many methods and techniques are generally used by universities, colleges and other institutions to assist educational

personnel for professional improvement including: (a) educational courses (b) in-service training (c) workshops (d) conferences and (e) seminars, etc.

### 2.9.1 Educational Courses

Courses are vital entities manipulated and designed by professional educational organizations. A course is a designed chain of learning experiences in a particular discipline or field, managed by an educational professional organization and assumed by one or group of students (Aggarwal & Thakur, 2003). Educational courses are arranged by universities at weekends or in the evening (Hoban, 2002). Undergraduate, graduate, post-graduate, doctorate and correspondence courses are some examples of professional development in the education field.

### 2.9.2 In-service Training Programs

In-service teachers' education within the overall framework of teacher's development has a crucial role that those who teach should never cease to learn (Chatterjee, 2008). In-service education, including complete reorganization of school personnel for school effectiveness that those education and training activities engaged in by primary and secondary school teachers, are exclusively to improve their professional knowledge, skills and attitude. In figure 2.3, demand for in-service education program arises from the idea that education is a life-long

process and no one-time formal training in an institution can fully equip a person

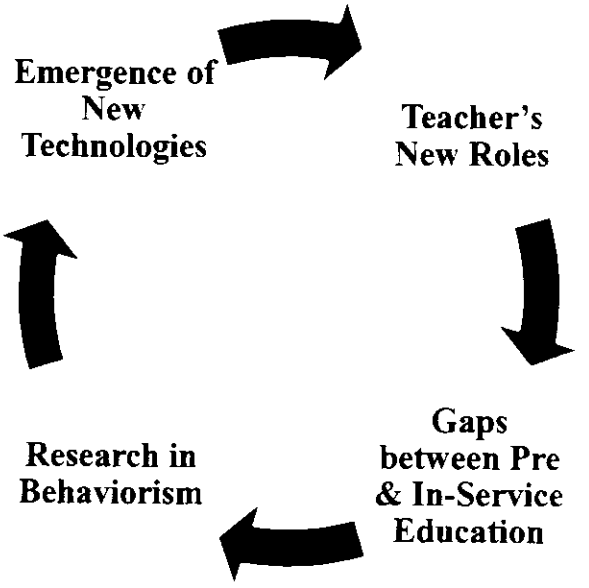


Figure 2.3. Cyclic presentation of in-service education program

for the professional service. During the instructive programs, the emergence of new technologies and trends have been developed. Many educators are unaware of the change. New insight into the nature of teaching is being generated as a result of research in cognitive domain and teacher behavior in the classroom. Day-to-day problems are encountered by the teachers in the classroom situations related to discipline and motivating the students. The changing social environment, norms, values, etc., also force a teacher to adopt new methods and techniques of teaching and evaluation.

A teacher has to play different roles, each requires different kind of knowledge, attitude and skill. Some researchers demand the in-service teacher education due to promulgation of new policies and plans, research based findings, social changes and technological advancement.

The key objectives of in-service educational programs are (i) to disseminate educational researches in journals. newsletters and booklets (ii) to develop teacher's ability to deal with colleagues. parents and the community (iii) to arrange seminars, conferences, workshops and refresher courses (Duggal, 2005).

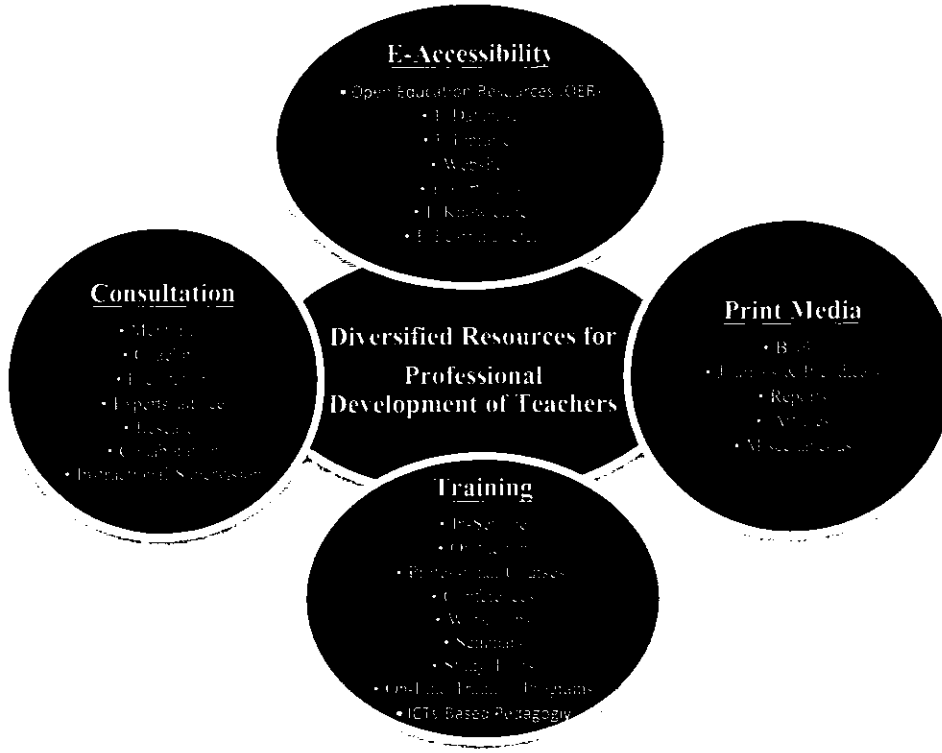


Figure 2.4. Resources for the teachers' professional development.

The workshops, orientation programs, trainings, reflections, on-job training, academic support, hands-on experience. etc. have been used thoroughly at different levels for capacity building of functionaries involved in ensuring quality aspects at school level.

To improve the professional behavior and aptitude of teachers. there are several types of traditional and digital resources which are utilized in the educational training institutions. In fact, such resources consist of all types of e-

accessibility, print-media, electronic-media, training programs and modern concepts of consultation. A variety of diversified resources are utilized in the in-service training programs illustrated in figure 2.4.

Specifically, access to repositories of information and resources (for example, databases, libraries and web sites, information super-highway, etc.), publications, trainings, and consultation (Connolly & York, 2003) are most applicable resources for teachers' professional development. Thus, in-service training programs inject vital input for developing professional behavior and attributes to the teachers.

### 2.9.3 Workshops

Workshops are doing and working exercises. The rationale in favor of workshops is that in-service education programs are also organized through workshops to help the teachers in developing diagnostic tests to trace various reasons for under performance (Duggal, 2005). It is a fresh blood injection technique providing essential and powerful information about professional growth for in-service teachers' capacity building. The educational workshops range in length from a day to a semester. These are usually scheduled for long set hours per day.

The educational workshops have been characterized as the activity-centered programs of development and inspiration. It consists of both general and individual sessions; utilizes a variety of resources; provides for cooperative planning, organization and evaluation; and offers opportunities for applying what is learned. The sites range from school-based to province/national based.

### 2.9.4 Summer Schools, Correspondence and Refresher Courses

Courses offered by institutions of higher learning are one of the commonly used methods in the in-service training of teachers usually the Allama Iqbal Open University, etc. offers the correspondence courses.

A large community of teachers gets benefits from these courses in Pakistan and elsewhere. The different public and private institutions offer refresher courses to refresh teachers' professional knowledge and skills of teaching. The Directorate of Staff Development (DSD), Provincial Institute of Teacher Education (PITE), University of Education and Institutes of Education and Research (UoE), Allama Iqbal Open University (AIOU) and many other universities provide summer schools, correspondence and refresher courses for the enrichment of in-service teachers in Pakistan. In private sector, similar series of sessions are held. Now the emphasis is on online courses, widely spread out.

### 2.9.5 Conferences and Seminars

Educational conferences and seminars are professional meetings for exchanging information and experiences and expertise are intuited by the professional educational organizations for the development of teachers' faculty, knack and dextrity (Hoban, 2002). The various types of professional meetings provide effective means for in-service educational training. The conferences and seminars provide a limited numbers of problems in details and generally address a particular issue (Nath & Cohen, 2011). The duration is generally limited for a few days. The video-conferencing has also emerged a powerful trend to share and

discuss the matter of interests and conflicts in the teaching profession. They are usually high cost programs in nature and structure.

Seminar and symposia form some other types of in-service teacher education programs organized for the teachers (Duggal, 2005). Several professional educational organizations initiate conferences that concentrate on relevant topics and themes. These educational conferences provide professional attribute among teachers (Koenig & Holbrook, 2000). A variety of such professional context accelerates professional capacity building of teachers.

Several studies support the concept of teachers' participation in professional learning programs such as courses, seminars and workshops. In a study which focused to evaluate the effectiveness of in-service courses in order to inform the changes introduced in the curricula. It was found out that these seminars were ineffective in terms of the quality of instructors, teaching methods employed, duration of the courses and support after training. It was suggested that courses should be conducted keeping in view the change afoot (Cimer, Cakir & Cimer, 2010). In a mixed-methods study, 378 new teachers and 29 seminar leaders completed the questionnaire, further, 16 new teachers and 14 seminar leaders interviewed and 20 seminar meetings were also observed. The seminars focused on coping with discipline problems, boosting self-confidence and developing the professional recognition. Further, it was found that the seminars were beneficial for in-school mentoring for the professional development and adjustment in the schools of new teachers (Fresko & Alhija, 2014). Another study pointed out that after participation in brief workshops, instructors might find improvement in instructional skills (Notzer & Abramovitz, 2008). In the teaching

perspective of Pakistan, teachers seldom take care of participating in professional development programs. Therefore, these activities should be mandatory for their professional learning and performance.

### 2.9.6 ICT's-Based Professional Development Projects for Teachers

There is a thoughtful concern and trend in the countries to provide technologically literate and skilled personnel in their educational set-up. The teachers at different levels are being trained in the use of information and communication technologies (ICTs) in education especially in pedagogical pattern and enterprise. There are countries which are taking preferable initiative of providing ICTs training to in-service teachers in all the subjects. However, in many countries, it is emphasized on the incorporation of teaching and learning principles and effectiveness into ICT design and development.

The example of Singapore is acknowledged by the UNESCO. The in-service teachers have been trained covering three levels. At the basic level, they provided training of using the learning resources in the virtual world, e-learning and multi-media presentation, etc. The intermediate level of in-service training of teachers covered the integrating ICTs into curriculum, ICT tools in thinking, learning and visualizing and developing ICTs-based pattern of activities. At advanced level the in-service training of teachers contains in designing ICT-based constructive pedagogical activities, project-based ICT class/lesson, and cutting-edge technologies in education (UNESCO, 2003). There is another instance of ICTs that is used in the European Union's countries to foster the teachers' professional development.

The collaboration of teachers has been facilitated by the ICTs under the "European Union's life learning program". The collaboration among teachers has been assisted on eTwinning portal. It provides collaboration among 137,000 teachers who interact with each other. The teachers discuss diverse novel research methods such as Social Network Analysis and information visualization technique. It is formal and informal platform for the teachers' professional development aiming at to sustain and support dynamic teachers' networks (Vuorikari, et al. 2011). Pakistan is the country where teachers have very low level of ICTs-based literacy/knowledge/programs. However, in Punjab, the Directorate of Staff Development has taken the initiative of providing the training to the personnel of "Connecting the Classroom" of public schools of the province with their counterpart schools in Europe for collaboration in different issues of pedagogy, students' development and success. That program is very praiseworthy for professional development of teachers.

It is said that the teachers have been provided the training in the basic of computer (UNESCO, 2003) rather than its application in the classroom to foster the pedagogical activities and strategies. The in-service training program has been initiated with the help of Intel Teach to the Future. This program of in-service training integrates the ICTs tools and resources in the lesson planning, assessment techniques, portfolio rubrics, use of internet, web page designing and students projects. The duration of the training comprises from one week to three weeks (UNESCO, 2003). However, teachers do not utilize the ICTs tools and resource in the process of pedagogy to enhance the students' learning.

There is a dire need to provide ongoing and sustained training projects regarding the integration of pedagogy and ICTs. The elementary teachers and schools need this projects immediately. In this respect, the growing Open Educational Resources (OERs) movement could well contribute to provide free quality resources from around the world for teachers training. Therefore, there is need of a policy at national/provincial level to harness the potential of "OER" for the teachers' development. UNESCO has also developed the Competency Framework for the Teachers and the Commonwealth of Learning has developed a Commonwealth Certificate on ICT integration for the teachers. These are free resources available on the internet and tangible for professional development of teachers.

## 2.10 Conclusion

Teaching is not just presenting the content to the students. It demands dedication. commitment and contribution of enriching the demanding and compelling capabilities to fulfill the standards and code of conduct of the profession. For this purpose, teachers take part in courses, workshops, conferences and training programs. The in-service training patterns are considered the most effective and powerful mode to develop the teachers professionally sound and efficient. Therefore, the professional development of teachers (PDOT) is the model which boosts up their devotion and updates their knowledge, skill and value of teaching. It also attempts to address the approach of standardization.

The professional development of the teachers has been presented reviewing the diverse approaches in the prior narrative and discourse analysis. The

teachers' professional development is based on the three research questions raised in the introduction. These research questions attempt to integrate the teachers' development in conducting research process, developing portfolios, reflecting upon teaching, collaborating with colleagues and incorporating the use of ICTs in the pedagogical activities to enhance the learning patterns of the students in the classroom setting.

This approach of the teachers' professional development highlights teachers diverse and more roles such as (i) the teachers as the researchers (ii) the teachers as the practitioners (iii) the teachers as the collaborators (iv) the teachers as the reflectors and (v) the teachers as the integrators of the ICTs with pedagogy. Teachers are demanded by the stakeholders to fulfill such roles to improve the instructional projects in the classroom to improve the learning outcome of the students and to meet the National Professional Standard for Teachers.

The next chapter would discuss the methodology adopted for this empirical investigation.

# CHAPTER 3

# METHODOLOGY OF RESEARCH

## 3.1 Nature of the Study

Science is considered to be the most effective way of modern technological age that explores the reality of universe, world, things, phenomena and events etc. It employs the scientific method to solve the problems and issues of material and physical world. This organized and systematic method of solving the issues and problems is commonly called the research process. The research process and project is a systematic approach to find out the different ways of solving to the problems related to human beings and their activities and interactions (Black, 2002). The problems regarding human behavior, cognition, aptitude and attitude are particularly analyzed in the social sciences. The methodology of social sciences inquiry is also being utilized in the discipline of education (Oliver, 2010). The educational research has been carried out in all the zones of academic field. For investigating the diverse issues, problems and events in the educational arena needs different research designs in order to improve the quality of teaching and learning process.

The current study employs the convergent-parallel mixed methods research design illustrated in figure 3.1, because it can combine quantitative and qualitative parameters of research which delve better into understanding and inquiring effectiveness of training for professional development of the teachers. Within the framework of quantitative parameter, the data were collected by using

the questionnaires. There were reasonable number of participants in the study and many dimensions of professional development could have probed on the basis of objectives and research questions, therefore, questionnaires were considered the most appropriate research technique to be used for the major part of the study. Another advantage of questionnaires is that a large amount of information could be gathered in a short period of time. Further, anonymous participants could have responded without fear of embarrassment or power relation (Zwozdiak-Myers, 2009). Additionally, the interview protocol was selected as a research technique and undertook with a sample of master trainers to address the qualitative model.

The selected subjects were interviewed for probing an in-depth investigation of the current problem of the research and issue. The goal of interviews protocol was to support the research questions in line with the objectives of this research. Thus, in order to realize the objective of this study, questionnaires and interviews were constructed to generate both quantitative and qualitative data of the study. Finally, both the approaches were mixed for drawing inferences and conclusions from the combined data figure 3.1. So, the design and nature of this program of inquiry formed is the mixed methods research.

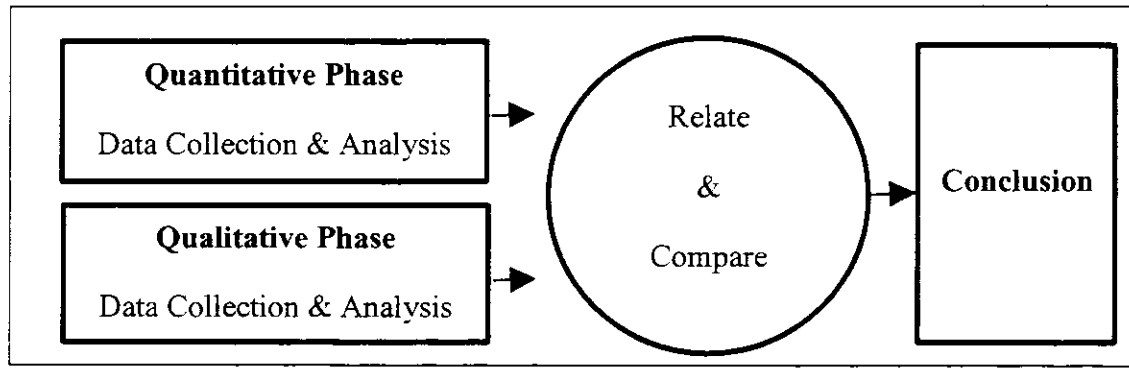


Figure 3.1. Convergent parallel mixed method research design.

The mixed methods approach is one of the major methodologies which are employed specifically by educational researchers to undertake their studies (Onwuegbuzie & Lee, 2006). They try to understand the complex social phenomena related to the issue and attempt to find out the solution of the educational problems (Lodico, Spaulding & Voegtle, 2006; Mertens, 2013). The mixed-methods-research (MMR) takes up both quantitative and qualitative phases to solve the issue. The investigation is also carried out concurrently or sequentially (Johnson & Christensen, 2012). In mixed methods research both quantitative and qualitative data are collected, analyzed, and mixed in the investigation (Cresswell & Plano Clark, 2007; Onwuegbuzie & Lee, 2006). A number of schooling issues particularly professional development of the teachers have adopted the mixed methods approach of inquiry (Decuir-Gunby, et al, 2012; Scott & Sutton, 2009). Consequently, mixed methods research design was selected for investigating the effectiveness of training of elementary school teachers for the professional development.

The convergent parallel mixed methods research design was deemed appropriate to investigate the problem in a comprehensive way. The elementary school teachers, head teachers and master trainers were the sample of the study in order to collect data for analysis and to address the objectives and research questions and test the hypothesis. The research questions were about the practitioners' research, refining the teaching practices keeping in view the learner' needs, portfolio development, collaboration, reflection and modern trends and use of information technologies (ICTs) etc. in the professional development projects.

The conceptual framework is presented and illustrated in the figure 3.2.

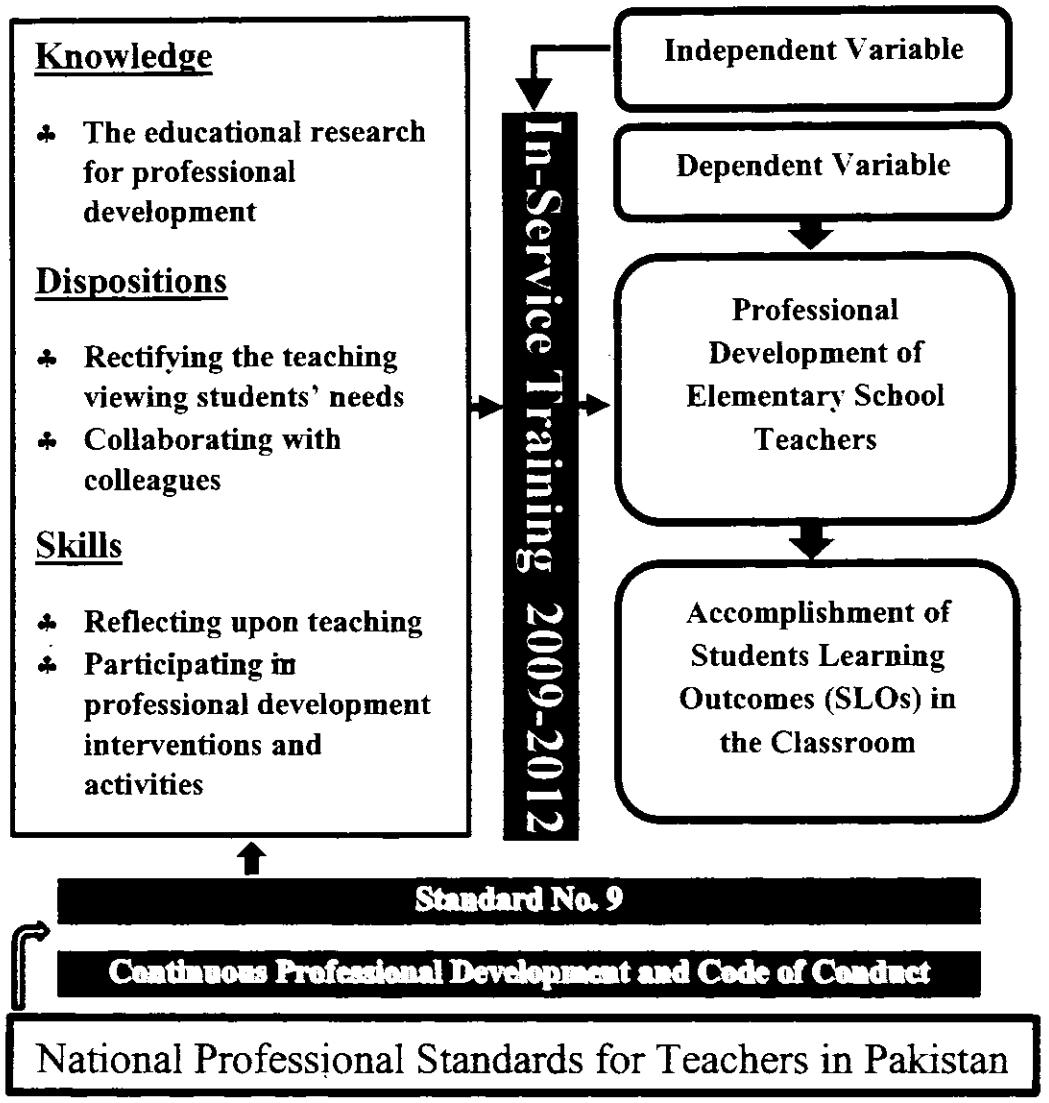


Figure 3.2. Conceptual framework of the study.

Thus, convergent parallel mixed methods research design was adopted to investigate the problem in a comprehensive framework.

## 3.2 Population of the Study

A population is summative of all cases that conform to some designated set of norms. Population essentials are sole members or units which can include items such as people, social actions and situations, proceedings, places and

occasions (Balikie, 2010). The population of this study consisted of elementary school teachers, head teachers of elementary schools and master trainers belonging to the three districts of Punjab such as Rawalpindi, Nankana Sahib and Lahore. These districts were preferred for inquirer's convenience.

Table 3.1

Profile of Population in the Study

| Sr. | Status | Population Size |
|---|---|---|
| 1 | ESTs | 5860 |
| 2 | HTs | 0494 |
| 3 | MTs | 0045 |
| | Total | 6399 |

Table 3.1 presented that there were 5860 elementary school teachers in these districts (Government of Pakistan, 2007). All the head teachers of these elementary schools (HTs = 494) included as the population of this study. A cross-sectional group of 45 master trainers deployed in these three districts constituted to be the component of population.

## 3.3 Sample and Sampling

In mixed methods research context, the investigator orientates on sampling design for quantitative and qualitative phases and these conclusions modify the quality of the researchers' meta-inferences and extent to which findings can

universalize to further persons, entities and domains (Collins, 2010). This study screened out sample for assembling of quantitative data in first phase of research. The sample of elementary school teachers was impaneled by means of implementing simple random sampling technique.

A list of the teachers and head teachers was acquired from the concerned district educational authorities. The sample size of ten percent 586 [male = 296 (51%) & female = 290 (49%)] was thus chosen out of 5860 [male = 2988 (51%) & female = 2872 (49%)] elementary school teachers. Elementary school head teachers fifty eight percent 285 [male = 166 (58%) & female = 119 (42%)] mandated out of 494 [male = 286 (58%) & female = 208 (42%)] resulting from using the simple random sampling technique (Gay, 2011). Table 3.2 shows breakup of the selected sample size.

Table 3.2

Breakup of Sample Size

| No. | Status | Sample size | Gender | |
|---|---|---|---|---|
| | | | Male | Female |
| 1 | ESTs | 586 | 296 | 290 |
| 2 | HTs | 285 | 166 | 119 |
| 3 | MTs | 009 | 07 | 02 |

Note: ESTs = Elementary School Teachers; HTs = Head Teachers; MTs = Master Trainers

In the second phase of the study, nine master trainers (male = 07 & female = 02) were selected from the population of master trainers ($n$ = 45) for interview purpose through purposive sampling. There were two motives behind the choice

of this sample size, firstly, it was deemed satisfactory to come to a point where more interviews would cease to deliver additional understandings. Secondly, they would be manageable for carrying out interviews in the time frame allocated for this purpose.

## 3.4 Instrumentation

Instrument provides support structure of gathering data for the selected subjects. It further informs insightful evidences of research questions and ultimately helps to achieve objectives of the research. This study envisaged two sets of instruments: the questionnaire and interview for collecting quantitative and qualitative data respectively. Questionnaire had many advantages such as it collected data from the large sample and also gathered information straight from the horse's mouth about their beliefs, practices and values. It also comprised of set of statements logically pertinent to the problems and elicited the well-conceived responses (Denscombe, 2007). A set of two questionnaires was used in the current study to induct direct responses of elementary school teachers and head teachers about the effectiveness of training.

The questionnaires were developed on the basis of the review of related literature and the appendix "D" standard ninth of National Professional Standard for the Teachers. First questionnaire was produced for the elementary school teachers and the second for the elementary head teachers in simple and easy English. There were three parts in the questionnaire which was developed for the elementary school teachers. Part one of the instrument encompassed demographical characteristics of the elementary teachers such as gender, location, academic and professional qualification, teaching experience and training received. Part two of the questionnaire consisted of seven questions covering

knowledge and practices in educational research for the professional development. The entire segment about educational research knowledge comprised open-ended questions. Only the elementary school teachers might respond to this section because the items assess their knowledge of educational research and practice.

In part three, there were twenty seven items about teachers' values and skills regarding refining their practices of teaching keeping in view students' needs, teachers collaboration with colleagues, reflection on the teaching practice and participation in diverse programs to enhance their classroom practices. Furthermore, items regarding the opinions of teachers about professional development programs and projects were also included in the questionnaire. The similar questionnaire with mediocre modification was also developed for elementary head teachers.

This tool comprised of twenty two items describing a range of teachers' practices and skills in the classroom demonstrating improvement in professionalism. Both the questionnaires adopted five point Likert scales such as (i) strongly agree (ii) agree (iii) undecided (iv) disagree and (v) strongly disagree. Five point Likert scale which ordered response categories was employed for respondents to rate their extent of agreement and disagreement regarding items in the questionnaire.

The validity of the questionnaires for ESTs (Appendix A) and HTs (Appendix B) were determined through the experts' opinions. Then, these tools were pilot tested for improvement in the questionnaires. The pilot testing of the questionnaires provided feedback about the clarity and appropriateness of each item in terms of its focus, use of language, styles of questions, relevance and

internal coherence was sought (Zwozdiak-Myers, 2009). They were pilot tested on twenty five teachers and fifteen head teachers. They were not the part of the sample selected for gathering data. In the light of their feedback, the content validity was further treated and reframed. Finally, reliability of the questionnaires was determined through Cronbach Alpha technique. The reliability of the teachers and head teachers questionnaires was .79 and .81 respectively. The final versions were launched for the data collection.

In qualitative phase of study, another research technique, the interview protocol was designed for probing the facts about teachers' professional development from the master trainers. Keeping in view the objectives and research questions, open–ended and probing questions were designed in the interview protocol (Appendix C) for greater clarity and depth of professional development. The pilot study involved conducting an interview with a master trainer from the population, who was not part of the selected sample for interview purpose.

The interview lasted for 35 minutes and was followed by a debrief session. The feedback was received in relation to situation, the relevance and clarity of open-ended and probing questions interrogated, use of language and sequence order of questions. In the light of this feedback, some modifications were made in the interviews. This procedure was adopted in order to maintain fitness of purpose and minimize the risk of researcher's partiality (Zwozdiak-Myers, 2009). The final versions of both the research techniques (questionnaires & interviews) were launched for gathering the data.

## 3.5 Research Ethics

Ethics are basic factors of developing a theory. A researcher's investigation depends on participants who take part in inquiry and provide valuable services. Therefore, the researcher deemed benefits and safeguarded contributor (Tylor et al, 2006). The researcher assured the respondents to protect them from any departmental infraction and organization i.e. (DSD) holding the training programs. Also, the researcher took consent of participants and assured their anonymity. Both the questionnaire had been filled anonymously without respondents' identity and school representing their identification. The confidentiality thus formed the essence in the process of data collection. Furthermore, gender sensitivity and location were not disclosed.

## 3.6 Data Collection

Researcher collected data personally by visiting different district and tehsil cluster centers (established by DSD) where the informants gathered to fill up the questionnaires. Some schools from selected sample were also approached by the researcher for data collection. The data were collected through questionnaires and interviews techniques from the teachers, head teachers and master trainers respectively. The researcher embodied the interviews at different locations which were appropriated for trainers. The interviews were video-taped.

## 3.7 Data Analysis

Data analysis is the most vital and thoughtful part of the investigation because it is a process of arranging, calculating and presenting the information to

draw conclusions for certain situation or problem. For depicting findings and conclusions on the collected data, one of the very useful software was used for computation and calculation. The data were tabulated with the help of the software SPSS version No. 16. This software is generally used in social sciences research particularly in educational parameter of research for the statistical analysis. Descriptive and inferential statistics were employed in the data analysis scheme of the current study. The descriptive statistics are constituted to make sense of gathered data and inferential statistics are used to infer some generalization for targeted population. Therefore, the data were exhibited through frequency, percentage, mean and graph in descriptive statistics. Cross tabulation analysis in which Chi-square was employed for the inferences. Chi-square test is run when the data are in categorical form (Fraenkel & Wallen, 2006). The collected data were categorized such as in columns strongly disagree (1) to strongly agree (5) and in rows teachers and head teachers. Therefore, chi-square was most suitable statistical analysis test for the current investigation.

The interview data were transcribed into text and then analyzed through qualitative data analysis technique. Both forms of data were mixed to draw inferences of the investigation.

## 3.8 Conclusion

The study attempted to explore the effectiveness of in-service training of teachers for professional development. The research questions, based on the objectives and the National Professional Standard for the Teachers, were formulated in order to find out the teachers' knowledge, values and skills

regarding the professional development. The research hypothesis was also drawn to evaluate teachers' knowledge for educational research process. The study was integrating the diverse approaches of educational research about teachers' professional development. Therefore, the convergent mixed methods research design was considered suitable to fulfill the requirements of both quantitative and qualitative framework of inquiry.

Embracing the design, the sample of the teachers and head teachers were selected to collect the data through the instrument of the questionnaires in order to address the quantitative scheme of research. Whereas, the master trainers were selected to gather the data through semi-structured interview protocol in order to meet the qualitative structure of the inquiry. For interpretation of the data analysis, the quantitative and the qualitative analysis were separately treated. It meets the requirements of the mixed methods research design. Consequently, the study could try to seek out the answers of the questions raised in the study both in quantitative and qualitative approaches.

The forthcoming chapter is about the analysis and interpretation of the data collected.

# CHAPTER 4

# DATA ANALYSIS AND INTERPRETATIONS

The inquiry emphasizes upon investigating the effectiveness of training of elementary school teachers for the professional development. The Kirkpatrick's model of measuring the effectiveness of the training provided is the basis of formulating the objectives of the study. It measures the effectiveness in such area as the increased knowledge, the changes in the attitude and improved skills which are occurred by the training (Kirkpatrick & Kirkpatrick, 2010). Essentially, four research questions of the study were drawn on the basis of National Professional Standards for the Teachers in Pakistan and the review of the related literature to attain the objectives.

The sample comprised 586 elementary-school-teachers (ESTs) and 285 elementary head-teachers (HTs) through adopting the simple random sampling techniques. And nine master trainers were also selected through purposive sampling. Two similar questionnaires and an interview protocol were developed on the basis of review of the related literature fitting in with the objectives and research questions of the study.

The mean, percentage, and chi-square statistical techniques were employed to analyze the quantitative data. And the qualitative data were transcribed into text form. The quantitative data analysis had two parts; first part pointed out the descriptive analysis and second part described the inferential analysis. The analysis part is being presented.

Table 4.2

Location-Based Teachers' Profile

| Location | Teachers | Percentage |
|---|---|---|
| Rural | 208 | 35.5 |
| Urban | 378 | 64.5 |

Table 4.2 reflected that there were 208 (35.5 % of the total respondents) rural teachers and 378 (64.5% of the total respondents) urban teachers. The data are presented in the graph, figure 4.2.

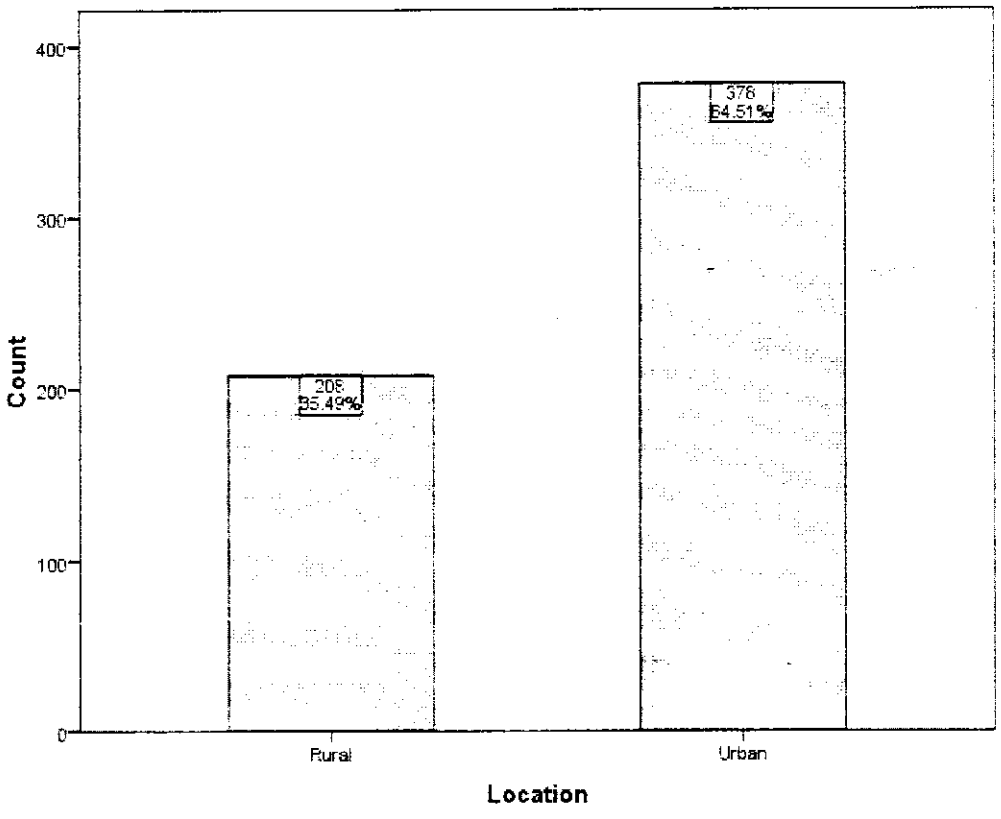


Figure 4.2. Location-based teachers' profile.

Table 4.3

Academic Qualification of Teachers

| Academic Qualification | Teachers | Percentage |
|---|---|---|
| MA | 334 | 37.0 |
| BA | 215 | 36.7 |
| FA | 037 | 06.3 |

Table 4.3 presented that the teachers having MA degree were 334 (37.0 %), those having BA degree were 215 (36.7 %) and those having FA certificate were 37 (06.3%) in number. The data are presented in the graph, figure 4.3.

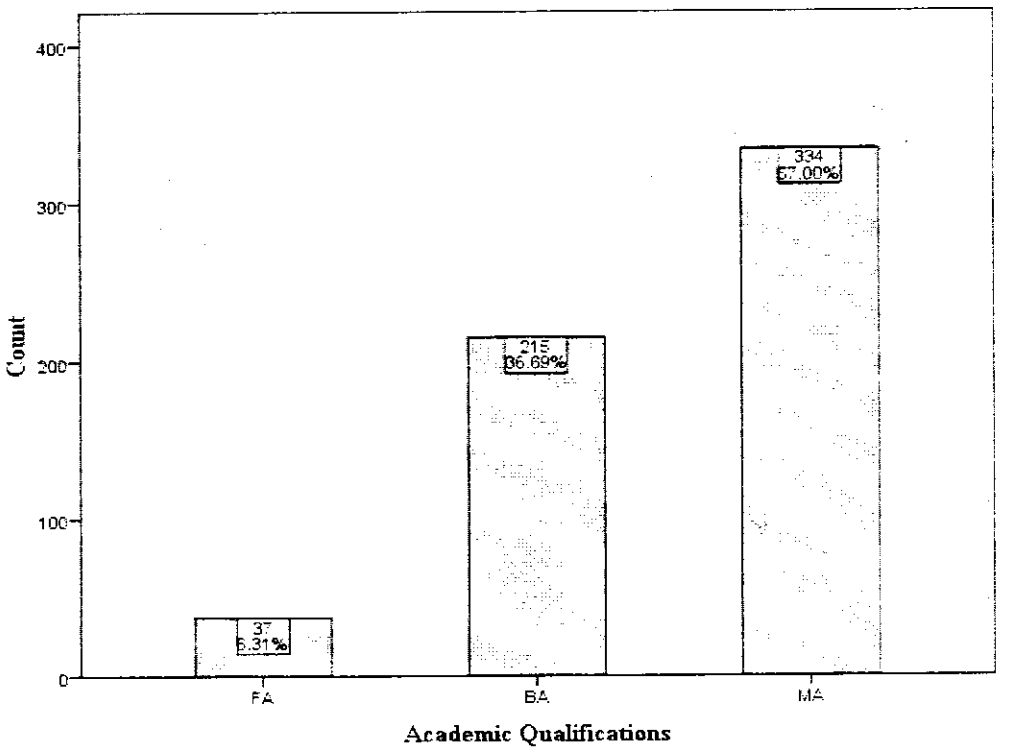


Figure 4.3. Academic qualification of teachers.

Table 4.4

Professional Qualifications of the Teachers

| Professional Qualification | Teachers | Percentage |
|---|---|---|
| M. Ed | 271 | 46.2 |
| B. Ed | 258 | 44.0 |
| CT | 057 | 09.7 |

Table 4.4 reflected that the teachers having M. Ed degree were 271 (46.2 %), those having B. Ed degree were 258 (44.0 %) and those having CT (Certificate in Teaching) were 57 (09.7%) in number. The data are presented in the graph, figure 4.4.

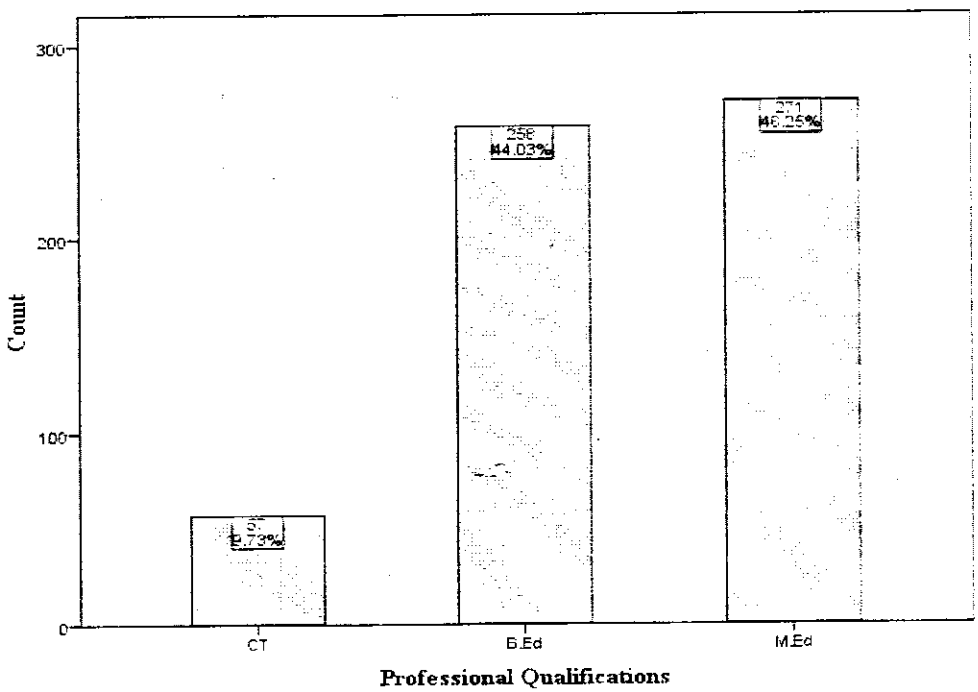


Figure 4.4. Professional qualifications of teachers.

Table 4.5

Teaching Experience of Teachers

| Teaching Experience | Teachers | Percentage |
|---|---|---|
| 01-10 (Years) | 468 | 79.9 |
| 11-20 (Years) | 058 | 09.9 |
| 21-30 (Years) | 060 | 10.2 |

Table 4.5 demonstrated that there were 468 (79.9 %) teachers with one to ten years of teaching experience, 58 (09.9 %) teachers having eleven to twenty years of teaching experience and 60 (10.2 %) teachers having teaching experience from twenty one years to thirty years. The data are presented in figure 4.5.

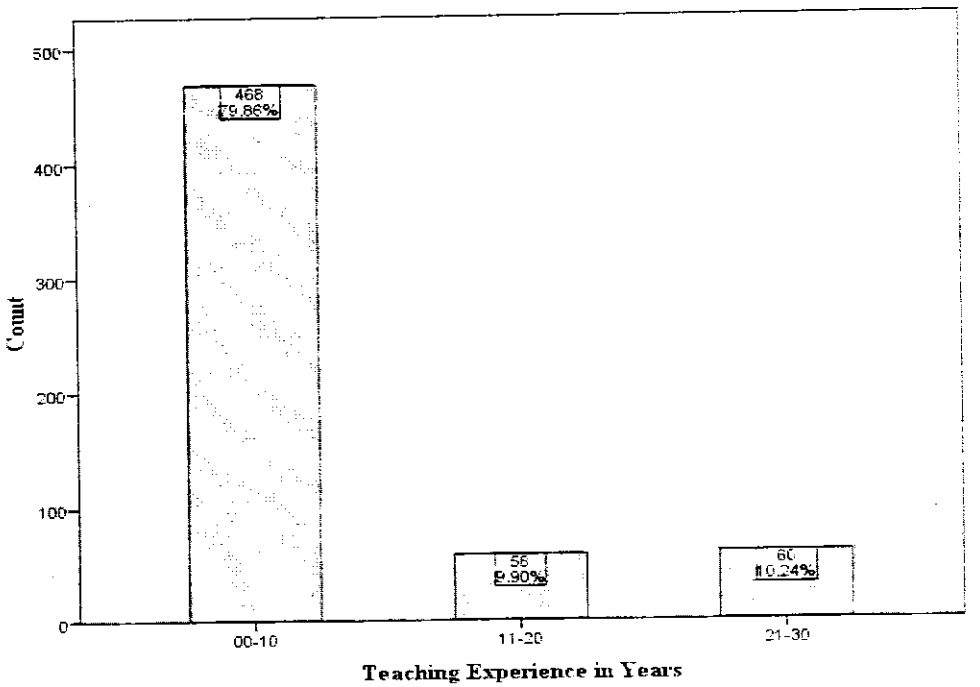


Figure 4.5. Teaching experience of teachers.

Table 4.6

A Summary about the Trained Teachers

| Number of Received Training Sessions | Teachers | Percentage |
|---|---|---|
| 1-3 | 027 | 4.6 |
| 4-6 | 552 | 94.2 |
| 7-9 | 07 | 1.2 |

Table 4.6 revealed that there were 27 (4.6 %) teachers who received one to three training sessions. 552 (94.2 %) teachers having received four to six training sessions and 07 (1.2 %) teachers having received seven to nine training sessions. The majority of the teachers had participated in four to six teachers' training programs. The data are presented in figure 4.6.

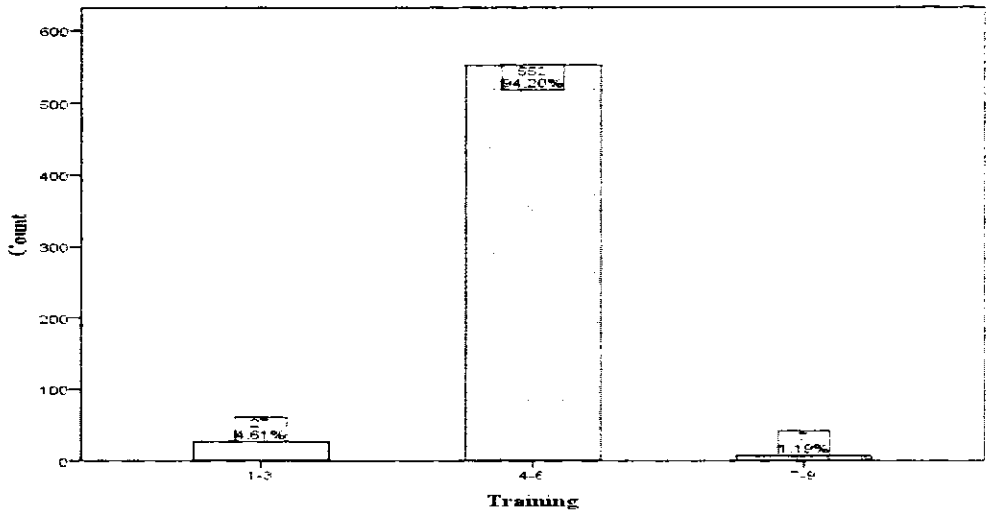


Figure 4.6. No. of training received by teachers.

## 4.1.2 Descriptive Analysis of Head-Teachers' Demographical Profile

The head-teachers demographic variables are discussed now.

Table 4.7

Gender-Based Head-Teachers' Profile

| Gender | Head-Teachers | Percentage |
|---|---|---|
| Female | 119 | 41.8 |
| Male | 166 | 58.2 |

Table 4.7 displayed that there were 119 (41.8 % of the total respondents) female head teachers and 166 (58.2 % of the total respondents) male head teachers. The data are presented in graph, figure 4.7.

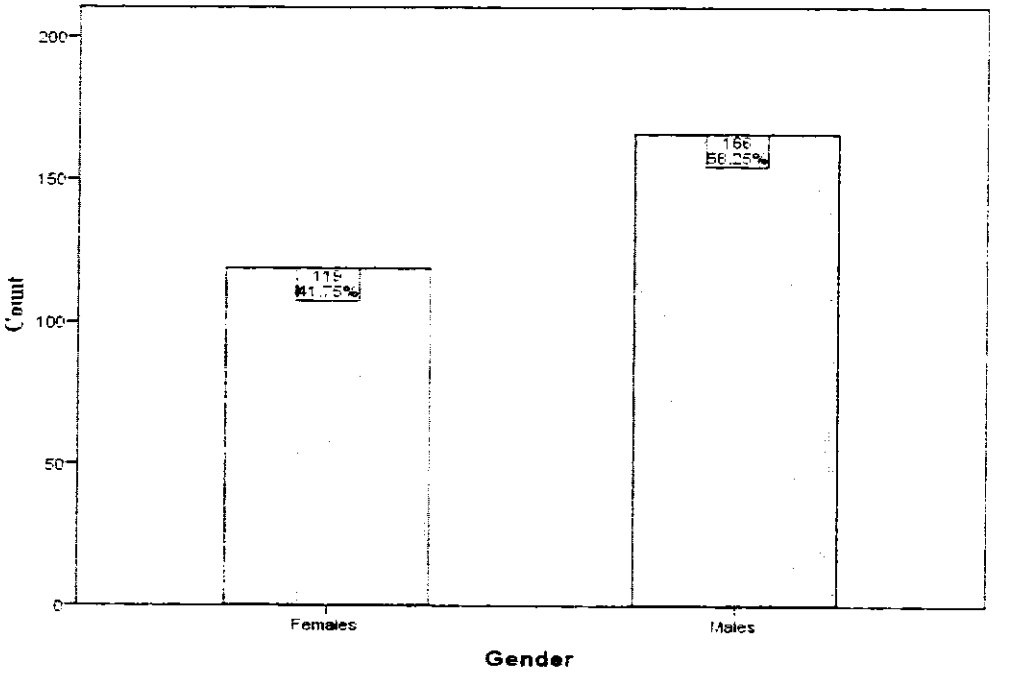


Figure 4.7. Gender-based head teachers.

Table 4.8

Location-Based Head-Teachers' Profile

| Location | Head-Teachers | Percentage |
|---|---|---|
| Rural | 170 | 59.6 |
| Urban | 115 | 40.4 |

Table 4.8 reflected that there were 170 (59.6 % of the total respondents) rural head teachers and 115 (40.4% of the total respondents) urban head teachers. The data are presented in the graph, figure 4.8.

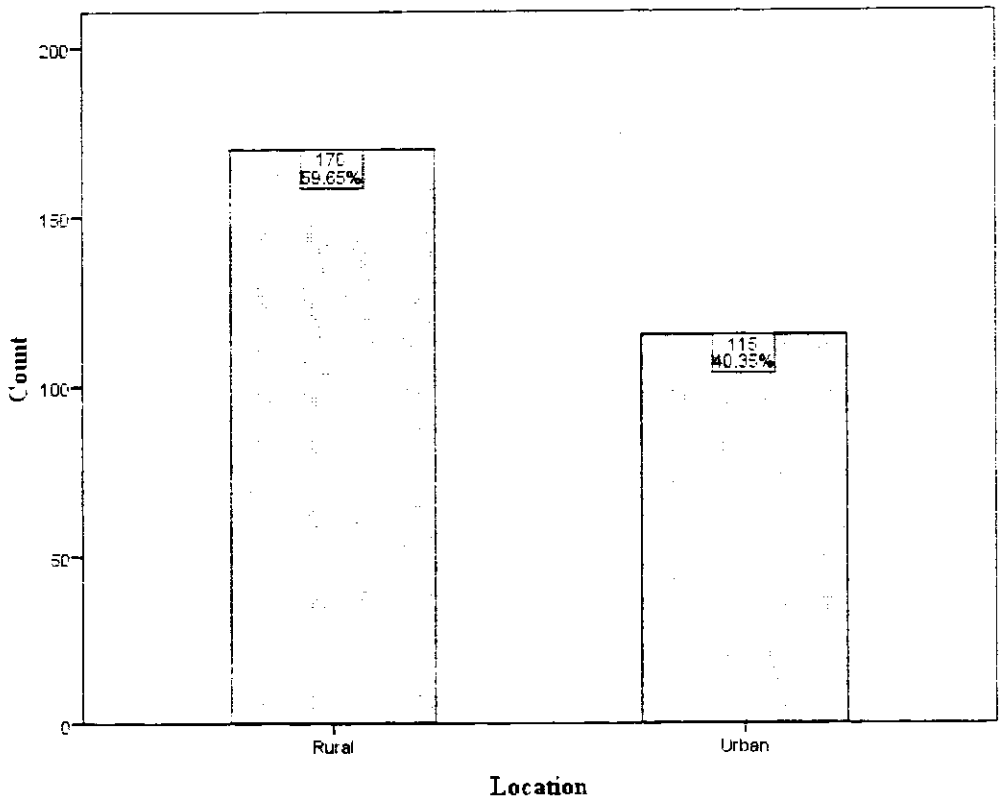


Figure 4.8. Location-based head teachers.

Table 4.9

Academic Qualification of Head Teachers

| Academic Qualification | Head-Teachers | Percentage |
|---|---|---|
| MA | 235 | 82.5 |
| BA | 50 | 17.5 |

Table 4.9 presented that the teachers having MA degree were 235 (82.5 %) and those having BA degree were 50 (17.5 %) in number. The data are presented in the graph, figure 4.9.

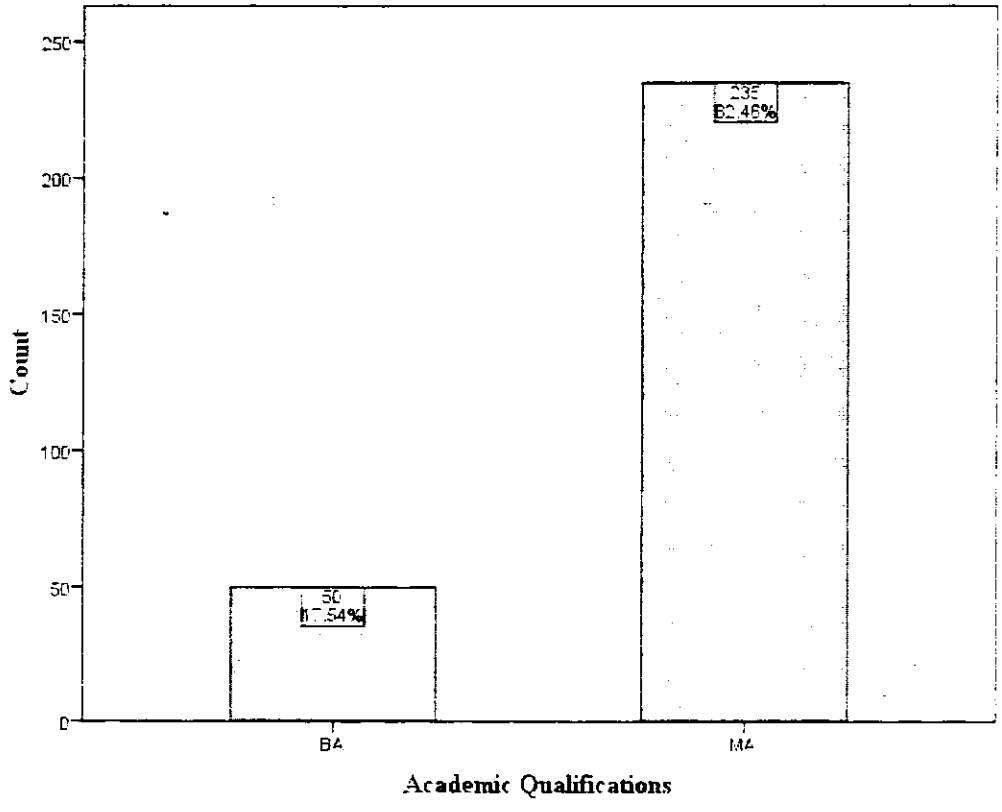


Figure 4.9. Academic qualification of head teachers.

Table 4.10

Professional Qualification-Based Head Teachers' Profile

| Professional Qualification | Head-Teachers | Percentage |
|---|---|---|
| M. Ed | 252 | 88.4 |
| B. Ed | 33 | 11.6 |

Table 4.10 revealed that the teachers having M. Ed degree were 252 (88.4 %) and those having B. Ed degree were 33 (11.6 %) in number. The data are presented in the graph, figure 4.10.

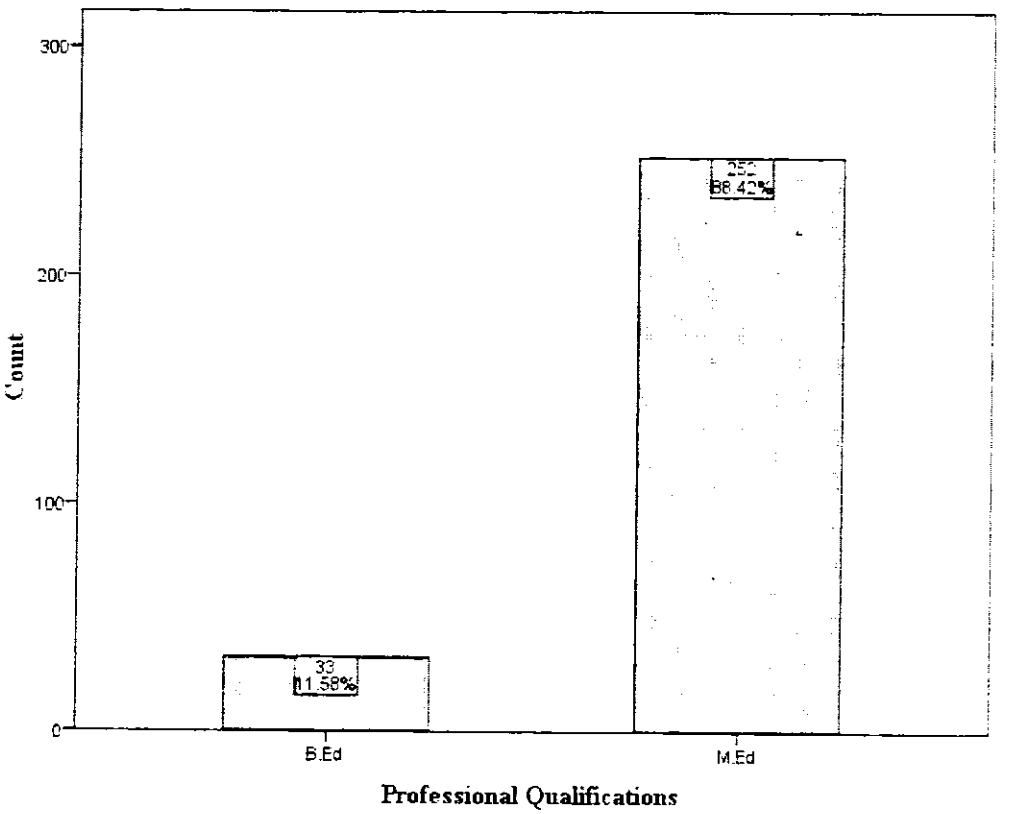


Figure 4.10. Professional qualification based head teachers.

Table 4.11

Experience-Based Head Teachers' Profile

| Teaching Experience | Head-Teachers | Percentage |
|---|---|---|
| 01-10 (Years) | 24 | 8.4 |
| 11-20 (Years) | 232 | 81.4 |
| 21-30 (Years) | 29 | 10.2 |

Table 4.11 demonstrated that there were 24 (8.4 %) head teachers with (1) to (10) years of teaching experience, 232 (81.4 %) head teachers having (11) to (20) years of teaching experience and 29 (10.2 %) head teachers having teaching experience within the (21) to (30) years. The data are presented in the graph, figure 4.11.

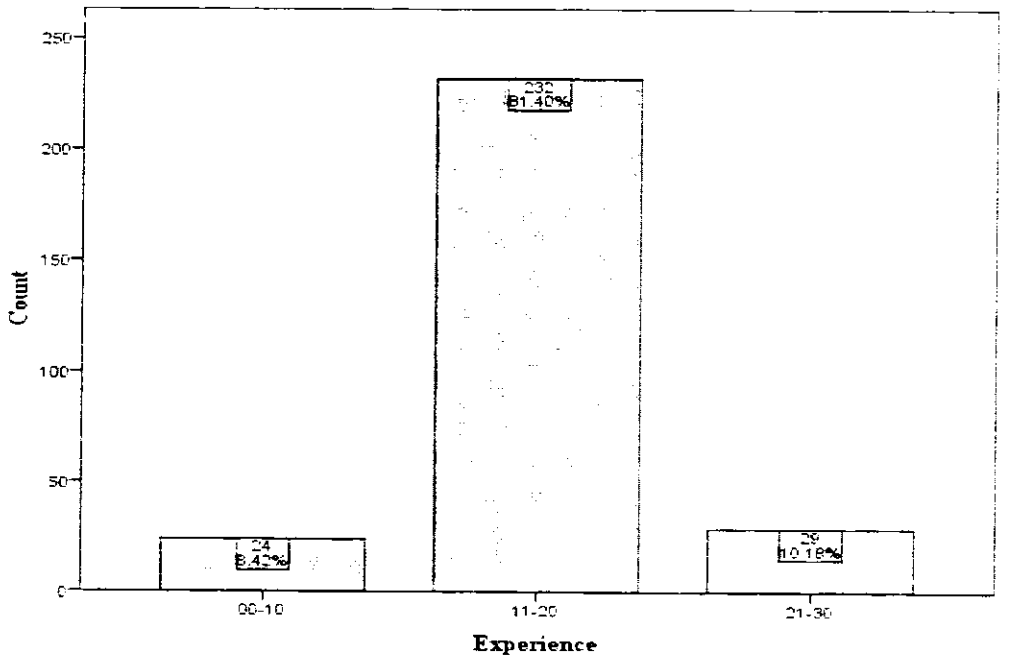


Figure 4.11. Experience-based head teachers' profile.

The demographic data reflected the teachers' gender, area, academic and professional qualifications, teaching experience and training. Similarly, the head teachers' demographics data described the same categories except the training. The demographic data have exhibited almost equal number of male (50.50%) and female (49.50%) elementary school teachers. The demographic data displayed the difference between the male (58.2%) and female (41.8%) head teachers of the middle schools. The difference existed due to the process of upgrading of schools from primary to middle schools in these districts at the time of data collection. At some places, the primary head teachers were also performing the duty as the in-charge head teacher of the middle schools. They did not qualify as headship of the middle or elementary schools. Therefore, there is less number of female head teachers rather than male head teachers as well as the size of schools by gender.

Mostly, the teachers of elementary school hold Master (37.0%) and Bachelor degrees (36.7%). This exhibited that they fulfilled the basic criteria of the academic qualifications. However, some teachers were under-graduate who had the minimum qualifications, as primary school teachers. But, this is a dying cadre now. As regard their professional qualifications, the data displayed that the teachers possessed M. Ed (46.2 %) and B. Ed degrees (44.0 %). Some teachers (09.7%) had Certificate in Teaching (CT) program to perform their jobs requirements in the middle schools. Under the current policy of Government of Punjab, all teachers in the elementary schools would now hold B. Ed. degree, as an entry qualification. It is inferred that mostly the teachers had the professional qualification above the Government's job criteria. It is a very positive trend that teachers had above the required level of academic and professional attainment.

The teaching experience graph of the teachers demonstrated that the majority of the teachers (79.9 %) had one to ten years of teaching experience. The trend illustrated that the majority of the teachers were new and fresh entrants as a policy of recruitment to bring in fresh blood in the system.

The data regarding in-service training of teachers revealed that there were (94.2 %) teachers having received four to six training courses. Surprisingly, it seemed that there was no trend of successive training at elementary schools. The small number of training sessions was insufficient to increase their capacities in pedagogical endeavor.

The head teachers' data also represented that the majority of the head-teachers possessed adequate academic and professional qualifications. Equally, they carried management and teaching experience.

Now, the descriptive data follows the inferential statistical treatment.

## 4.2 Inferential Statistical Analysis

Inferential statistical analysis is presented in this section.

### 4.2.1 Analysis of Teachers' Extent of Knowledge about Educational Research for Professional Development

Table 4.12

Analysis of Teachers' Knowledge of Educational Research

| Training | Have no Knowledge | Have Knowledge to Little Extent | Have Knowledge to Some Extent | $\chi^2$ | Sig. |
|---|---|---|---|---|---|
| 1-3 | 03.4 | 00.8 | 00.4 | | |
| 4-6 | 71.7 | 12.8 | 10.0 | 1.485 | .82 |
| 7-9 | 01.0 | 00.2 | 00.0 | | |
| Total | 76.1 | 13.8 | 10.1 | | |

Note. Have no knowledge & Have knowledge to little extent = Fail; Have knowledge to some extent & Have knowledge to great extent = Pass; Degree of Freedom (df) = 4; $\chi^2$ = Chi-Square Value.

Table 4.12 expressed that the chi-square test was employed to test the research hypothesis. Statistical analysis displayed that ($\chi^2$ (4) = 1.485, $N$ = 586, $p$-value = .82 > .05). The sig-value was not significant at the significance level; hence, the null hypothesis was accepted. It was stated that there was no significant development in teachers' knowledge of educational research for professional improvement through in-service training.

## 4.2.2 The Teachers' Value to Refine the Teaching Practices

Table 4.13

Teacher and Head-Teachers' Responses about Teachers Plan and Design Lessons

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| Teachers' plan their lesson. | ESTs | 38.4 | 17.4 | 41.6 | 2.6 | 2.52 | 1.108 | .00* |
| | HTs | 17.5 | 50.2 | 28.1 | 4.2 | 2.51 | | |

Note. Degree of Freedom (df) = 4; & Significance level ($\alpha$) = .05; $\chi^2$ = Chi-Square Value; Sig. = P-Value; SD = Strongly Disagree; DA = Disagree; UD = Undecided; A = Agree; SA = Strongly Agree; EST = Elementary School Teacher; HTs = Head Teachers.
* $p < .05$.

Table 4.13 showed the Pearson Chi-Square test was manipulated to examine responses of teachers and head teachers about the teachers' value to refine the skills of lesson planning, keeping in view the overall needs of the students. The computation analysis presented as ($\chi^2$ (3) = 1.10, $N$ = 871 (586 EST Teachers – 285 Head Teachers), $p = .00 < \alpha = .05$). The Sig-value was found to be statistically significant at cut off level of significance that teachers refined their skills of lesson planning, keeping in view, the overall needs of the students. Furthermore, the ESTs comparatively held strong opinions (Mean = 2.52) than head-teachers (Mean = 2.51) reported as regards the planning of their lessons. The premise of the statement manifested that the mainstream teachers demonstrated higher professional obligation to refine their skills of lesson planning, keeping in view the inclusive needs of the students.

Table 4.14

Teachers Refine Classroom Environment for Students

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| Teachers refine classroom environment. | ESTs | 50.7 | 5.8 | 34.6 | 8.9 | 2.45 | 3.487 | .00* |
| | HTs | 15.4 | 63.5 | 18.9 | 2.2 | 2.28 | | |

* $p < .05$.

Table 4.14 exhibited that the Pearson Chi-Square test was computed to examine responses of teachers and head teachers about the teachers who tended to refine their classroom environment keeping in view the overall needs of the students. The calculated analysis indicated as ($\chi^2$ (3) = 3.487, $N$ = 871 (586 EST Teachers + 285 Head Teachers), $p = .00 < \alpha = .05$). The Sig-value was found to be statistically significant at cut off level of significance that the teachers refined their classroom environment by viewing the overall needs of the students. Moreover, the ESTs held relatively more strong opinions persons (Mean = 2.45) as compared to the head teachers (Mean = 2.28) and that they tended to refine their classroom environment for the students' learning outcomes. The premise of the statement manifested that the mainstream teachers demonstrated their professional commitment to refine their skills of lesson planning keeping in view the inclusive needs of the students.

Table 4.15

Teachers Assess Students Work in Classroom

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| Teachers assess work of students in classroom. | ESTs | 2.0 | 9.9 | 56.1 | 31.9 | 4.05 | 3.680 | .00* |
| | HTs | 26.0 | 50.5 | 16.8 | 6.7 | 2.29 | | |

* $p < .05$.

Table 4.15 illustrated that the Pearson Chi-Square test was calculated to test the responses of the teachers and head teachers that teachers assessed students' work. The calculated analysis indicated as ($\chi^2$ (3) = 3.680, $N$ = 871 (586 EST Teachers + 285 Head Teachers), $p = .00 < \alpha = .05$). The Sig-value was found to be statistically significant at cut off level of significance that teachers assessed students work while viewing the comprehensive needs of the learners. Furthermore, ESTs held relatively more strong opinions persons (Mean = 4.05) compared to head teachers (Mean = 2.29) that they assessed learners' classroom assignments. The evidence of the statement manifested that the mainstream teachers assessed students' work keeping in view the overall needs of their students.

Table 4.16

Teachers Provide Feedback to Students in Classroom

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| Teachers provide feedback to students | ESTs | 2.0 | 9.9 | 58.9 | 29.2 | 4.02 | 2.899 | .00* |
| | HTs | 25.6 | 41.4 | 26.0 | 7.0 | 2.47 | | |

* $p < .05$.

Table 4.16 reported the Pearson Chi-Square test was conducted to measure responses of teachers and head teachers about teachers' provided feedback to the students. The calculated analysis presented as ($\chi^2$ (3) = 2.899. $N$ = 871 (586 EST Teachers + 285 Head Teachers), $p = .00 < \alpha = .05$). The Sig-value was found to be statistically significant at cut off level of significance that the teachers provided feedback keeping in view the overall needs of the students. Moreover, ESTs had relatively more strong opinions (Mean = 4.02) than the head teachers (Mean = 2.47) and that they provided feedback to the students in the classroom. The premise of the statement manifested that the mainstream teachers provided feedback in the classroom keeping in view the overall requirements of the students while they performed their professional tasks.

Table 4.17

Teachers Use and Integrate ICTs with Pedagogy in Classroom for Performing Professional Teaching

| Statement | Status | SDA | DA | A | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|
| Teachers use the ICTs to perform professional teaching. | ESTs | 68.6 | 25.6 | 5.8 | 1.43 | 2.00 | .36 |
| | HTs | 72.3 | 23.9 | 3.9 | 1.35 | | |

Table 4.17 elaborated that the Pearson Chi-Square test was computed to analyze the teachers' and the head teachers' correspondence about the teachers use and integrate the ICTs and pedagogy in the classroom teaching practice. The calculated analysis indicated as ($\chi^2$ (2) = 2.00, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .36 > $\alpha$ = .05). The Sig-value was not found to be statistically significant at cut off level of significance. It means that teachers did not use ICTs while performing professional practical teaching in the classroom setting. Moreover, head teachers held comparatively more strong opinion persons (Mean = 1.35) than ESTs (Mean = 1.43) and that the teachers did not use and integrate the ICTs with pedagogy in the classroom practice of professional teaching. The premise of the statement manifested that the mainstream teachers did not professionally adopt and integrate the ICTs with pedagogy, keeping in view the overall needs of the students.

### 4.2.3 Teachers' Demonstrate Commitment to Collaborate with Colleagues

Table 4.18

Teachers Work Together with Colleagues at School

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| Teachers work together with their colleagues. | ESTs | 23.9 | 43.7 | 20.5 | 11.9 | 3.12 | 53.699 | .00* |
| | HTs | 11.2 | 31.9 | 40.7 | 16.1 | 2.54 | | |

*$p < .05$

Table 4.18 disclosed that the Pearson Chi-Square test was conducted to analyze the responses of teachers and head teachers related to the teachers worked together with their colleagues at the school. The calculated analysis presented as ($\chi^2$ (3) = 53.699, $N$ = 871 (586 EST Teachers + 285 Head Teachers), $p$ = .00 < $\alpha$ = .05). The sig-value was found to be statistically significant at cut off level of significance that teachers worked together with the colleagues at schools. Further, ESTs held relatively more strong opinions (Mean = 3.12) compared to head teachers (Mean = 2.54) and that they collaborated with colleagues at school setting. The premise of the statement manifested that the mainstream teachers valued the professional collaboration of working together with their colleague.

Table 4.19

Teachers Cooperation with other Schools

| Statement | Status | SDA | DA | A | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|
| Teachers cooperate with other schools. | ESTs | 67.4 | 22.5 | 10.1 | 1.52 | .438 | .80 |
| | HTs | 67.7 | 21.1 | 11.2 | 1.54 | | |

Table 4.19 explained that the Pearson Chi-Square test was carried out to investigate responses of teachers and head teachers about teachers' cooperation with other schools. The calculated analysis presented as ($\chi^2$ (2) = .438, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .80 > $\alpha$ = .05). The Sig-value was not found to be statistically significant at cut off level of significance. It means the teachers did not work together at other schools. Moreover, the head teachers held relatively more strong opinions (Mean = 1.54) compared to ESTs (Mean = 1.52) and that the teachers did not collaborate with the teaching colleagues when they found the opportunity at other schools. The premise of the statement manifested that the mainstream teachers did not professionally work together with other teaching colleagues at other schools to enhance the classroom practice of teaching.

Table 4.20

Teachers Work Together at other Locations except Schools

| Statement | Status | SDA | DA | A | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|
| Teachers work together at other schools. | ESTs | 65.2 | 21.5 | 13.3 | 1.61 | 4.629 | .09 |
| | HTs | 70.2 | 21.4 | 8.4 | 1.46 | | |

Table 4.20 described that the Chi-Square test was conducted to probe the responses of the teachers and the head teachers about the teachers worked together with colleagues at other places except schools to upsurge practice of teaching. The statistical analysis disclosed ($\chi^2$ (2) = 4.629, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .09 > $\alpha$ = .05). It means that the sig-value is not found statistically significant. The statistical analysis ascertained that the teachers did not work together with colleagues at other places except schools to enrich professional practice in the classroom setting. Furthermore, the ESTs held relatively more strong opinions (Mean = 1.61) as compared to the head teachers (Mean = 1.46) that they did not work together with other school colleagues except their own schools. The premise of the statement manifested that the mainstream teachers did not work together with colleagues at other places except schools for the professional collaboration.

Table 4.21

Teachers Work together with other Professionals

| Statement | Status | SDA | DA | A | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|
| Teachers work together with other professionals. | ESTs | 69.3 | 23.7 | 7.0 | 1.52 | .278 | .87 |
| | HTs | 69.8 | 22.5 | 7.7 | 1.54 | | |

Table 4.21 exhibited that the Chi-Square test was executed to explore teachers and head teachers' responses about the teachers worked together with other professionals to boost up teaching in the classroom setting. The statistical analysis showed ($\chi^2$ (2) = .278, $N$ = 871 (586 EST Teachers ~ 285 Head Teachers), *p-value* = .87 > $\alpha$ = .05). It means that the sig-value was not found statistically significant. The statistical analysis established that the teachers did not work together with professionals of other disciplines for improving the classroom practice. Furthermore, the head teachers held relatively more strong opinions (Mean = 1.54) as compared to ESTs (Mean = 1.52) and that the teachers did not work together with professionals of other disciplines. The premise of the statement manifested that the mainstream teachers failed to collaborate with the professionals of other disciplines for the development of instruction and pedagogy.

Table 4.22

Teachers' Mentoring Program

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| Teachers work together with their mentors. | ESTs | 63.1 | 20.8 | 10.1 | 6.0 | 1.74 | 3.535 | .31 |
| | HTs | 61.8 | 19.6 | 14.0 | 4.6 | 1.80 | | |

Table 4.22 revealed that the Chi-Square test was run to find out the teachers and the head teachers' responses about the teachers' activities to collaborate with mentors to enhance professional teaching in the classroom setting. The statistical analysis showed as ($\chi^2$ (3) = 3.53. $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .31 > $\alpha$ = .05). It means that the sig-value was not statistically significant. The statistical analysis yielded that the teachers did not work together with mentors of inter-discipline professionally for improving the classroom practice. Moreover, the head teachers held relatively more strong opinions (Mean = 1.80) as compared to the ESTs (Mean = 1.74) and that the teachers did not cooperate with mentors. The premise of the statement manifested that the mainstream teachers payed less value to collaborate with their mentors.

Table 4.23

Teachers Writing of Professional Diary

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| Teachers writing of professional diary. | ESTs | 29.5 | 44.7 | 24.7 | 1.1 | 2.23 | 24.641 | .00* |
| | HTs | 35.4 | 53.3 | 10.5 | 0.7 | 1.87 | | |

* $p > .05$

Table 4.23 showed that the Chi-Square test was conducted to examine the teachers and the head teachers' responses about the teachers writing professional diary which critically reflect on their teaching in the classroom setting. The statistical analysis showed as ($\chi^2$ (3) = 24.641, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .00 < $\alpha$ = .05). It means that the sig-value was statistically significant and the teachers liked to write their own professional diary to reflect on their teaching practice. Furthermore, the ESTs held relatively more strong opinions (Mean = 2.23) as compared to the head teachers (Mean = 1.87) and that they wrote their own professional diary to reflect on their teaching development and practice. The premise of the statement manifested that the mainstream teachers possessed the skill of writing professional diary for the purpose of reflecting on teaching so that their practice of teaching could be improved.

Table 4.24

Teachers Writing of Research Articles

| Statement | Status | SDA | A | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|
| Teachers write research articles. | ESTs | 75.1 | 24.9 | 1.24 | .205 | .67 |
| | HTs | 76.5 | 23.5 | 1.23 | | |

Table 4.24 established that the Chi-Square test was employed to measure the teachers and the head teachers' response about the teachers writing research articles to sharpen their professional practice of teaching. The statistical analysis showed as ($\chi^2$ (1) = .205, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .67 > $\alpha$ = .05). It means that the sig-value was not statistically significant. It was thus found that the teachers did not write research articles. Further, ESTs held relatively more strong opinions (Mean = 1.24) as compared to head teachers (Mean = 1.23) and that they did not like to write research articles. The premise of the statement manifested that mainstream teachers had no proficiency of writing research articles for the purpose of reflecting on teaching so that their practice of teaching could be improved.

Table 4.25

Teachers Practice of Reading Research Articles

| Statement | Status | SDA | DA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|
| Teachers practice of reading the research articles. | ESTs | 72.9 | 27.1 | 1.24 | .522 | .47 |
| | HTs | 70.5 | 29.5 | 1.23 | | |

Table 4.25 illustrated that the Chi-Square test was conducted to measure teachers and head teachers' responses about the teachers' practice of reading the research articles to hone the professional skills of teaching. The statistical analysis showed as ($\chi^2$ (1) = .522, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .47 > $\alpha$ = .05). It means that the sig-value was not statistically significant. It was further analyzed that the teachers seldom read research articles. Further, ESTs held relatively more strong opinions (Mean = 1.24) as compared to the head teachers (Mean = 1.23) and that they did not like to read the research articles. The premise of the statement manifested that the mainstream teachers did not read research papers to reflect upon their classroom practice of teaching for revitalizing their instructional performance.

Table 4.26

Teachers are observed by their Peers

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| Teachers are observed by their peers. | ESTs | 63.0 | 18.4 | 16.9 | 1.7 | 1.75 | 7.805 | .05* |
| | HTs | 64.6 | 22.1 | 13.3 | 0.00 | 1.62 | | |

*$p > .05$

Table 4.26 exhibited that the Chi-Square test was executed to analyze the teachers and the head-teachers' responses about the observations given by their peers to groom the professional capability of teaching. The statistical analysis showed as ($\chi^2$ (3) = 7.805, $N$ = 871 (586 EST Teachers + 285 Head Teachers). *p-value* = .05 > $\alpha$ = .05). It means that the sig-value was statistically significant. It was thus analyzed that the teachers were observed by their peers. Furthermore, the ESTs held relatively more strong opinions (Mean = 1.75) as compared to the head teachers (Mean = 1.62) and that they were observed by their peers. The premise of the statement manifested that the mainstream teachers were observed by their peers to reflect upon their practice of teaching in order to embellish their instructional skills and performance.

Table 4.27

Teachers Videotape their Teaching

| Statement | Status | SDA | DA | A | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|
| Teachers videotape their teaching. | ESTs | 65.2 | 34.6 | 0.2 | 1.35 | 3.191 | .20 |
| | HTs | 70.9 | 29.1 | 0.00 | 1.29 | | |

Table 4.27 indicated that the Chi-Square test was employed to investigate teachers and head teachers' responses about the teachers videotaped their classroom professional practice of teaching. The statistical analysis showed as ($\chi^2$ (2) = 3.191, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .20 > $\alpha$ = .05). It means that the sig-value was not statistically significant. It was observed that the teachers did not videotape their classroom's instruction. Furthermore, the ESTs held relatively more strong opinions (Mean = 1.35) as compared to the head teachers (Mean = 1.29) and that they did not video-tape their classroom instruction for improvement and critically analyzing their practices. The premise of the statement manifested that the mainstream teachers did not videotape their professional practice of instruction to enhance their pedagogical skills and performance.

Table 4.28

Teachers Develop their Professional Teaching Portfolios

| Statement | Status | SDA | DA | A | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|
| Teachers develop their professional portfolios. | ESTs | 73.9 | 24.4 | 1.7 | 1.29 | 5.101 | .07 |
| | HTs | 76.5 | 23.5 | 0.00 | 1.23 | | |

Table 4.28 designated that the Chi-Square test was conducted to probe teachers' and head teachers' responses about the teachers developed their professional portfolios. The statistical analysis showed as ($\chi^2$ (2) = 5.101, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .07 > $\alpha$ = .05). It means that the sig-value was not statistically significant. It was seen that the teachers did not develop their portfolios. Both teachers (Mean = 1.29) and head teachers (Mean = 1.23) also disagreed that teachers developed their professional portfolios. The premise of the statement manifested that the mainstream teachers did not develop their professional portfolios for the purpose of reflection on their teaching.

Table 4.29

Teachers Familiarity with National Professional Standards of Teaching

| Statement | Status | SDA | DA | A | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|
| Teachers know professional standards of teaching. | ESTs | 73.7 | 24.6 | 1.5 | 1.29 | 5.150 | .16 |
| | HTs | 76.5 | 23.5 | 0.00 | 1.23 | | |

Table 4.29 presented that the Chi-Square test was employed to look into teachers and head teachers' response about teachers' familiarity with professional standards of teaching published by the Govt. of Pakistan. The statistical analysis displayed as ($\chi^2$ (2) = 5.150, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .16 > $\alpha$ = .05). It meant that the sig-value was not statistically significant. Therefore, it was perceived that teachers did not have the knowledge of National Professional Standards of Teaching. Both teachers (Mean = 1.23) and head teachers (Mean = 1.29) disagreed that the teachers had knowledge of standards of teaching. The premise of the statement manifested that the mainstream teachers had no familiarization with National Professional Standards for Teachers in order to potentiate their pedagogical knowledge, values, and skills in the profession of teaching.

### 4.2.4 Teachers' Participation in Professional Development Programs

Table 4.30

Teachers Participate in Courses

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| Teachers participate in courses. | ESTs | 62.5 | 27.6 | 6.1 | 3.8 | 1.61 | 6.507 | .08 |
| | HTs | 64.6 | 21.4 | 7.7 | 6.3 | 1.69 | | |

Table 4.30 revealed that the Chi-Square test was employed to investigate the teachers' and the head-teachers' responses about the teachers' participation in educational courses to improve their classroom professional skills of teaching. The statistical analysis showed as ($\chi^2$ (3) = 6.507, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .08 > $\alpha$ = .05). It means that the sig-value was not statistically significant. It was thus described that the teachers did not participate in the professional development courses to improve their classroom instruction. Both the teachers (Mean = 1.23) and the head teachers (Mean = 1.29) disagreed that the teachers had knowledge of standards of teaching. The premise of the statement manifested that the mainstream teachers seldom participated in the courses to improve their professional ways of instruction to enhance their pedagogical skills and performance.

Table 4.31

Teachers Participation in Training

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| Teachers participate in training. | ESTs | 8.0 | 14.0 | 45.2 | 32.8 | 3.80 | 1.916 | .00* |
| | HTs | 26.0 | 44.2 | 20.7 | 9.1 | 2.42 | | |

Table 4.31 exposed that the Chi-Square test was employed to analyze the teachers and the head teachers' responses about the teachers' participation in the training programs for the improvement of their classroom professional practice of teaching. The statistical analysis showed as ($\chi^2$ (3) = 1.916, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .00 < $\alpha$ = .05). It means that the sig-value was statistically significant. Therefore, it was noted that the teachers participated in the training programs to improve their classroom instruction. Furthermore, the elementary school teachers (Mean = 3.80) and the head teachers (Mean = 2.42) also represented their consent regarding the statement that teachers participated in professional training programs to upgrade their pedagogical skills. The premise of the statement manifested that the mainstream teachers participated in the training to improve their professional practice of instruction to elevate their pedagogical services and presentations.

Table 4.32

Teachers Participation in Workshops

| Statement | Status | SDA | DA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|
| Teachers participate in workshops. | ESTs | 75.1 | 24.9 | 1.24 | .205 | .67 |
| | HTs | 76.5 | 23.5 | 1.23 | | |

Table 4.32 showed that the Chi-Square test was conducted to probe the teachers' and the head teachers' responses about the teachers' participation in educational workshops for the progress of their professional practice of teaching. The statistical analysis showed as ($\chi^2$ (1) = 6.507, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .67 > $\alpha$ = .05). It means that the sig-value was not statistically significant. Therefore, it was analyzed that the teachers failed to join the educational workshops that provide skills, value and knowledge for the revitalization of their classroom instruction. Also it represented that the teachers seldom took part in professional workshops for activation and enhancing of their skills of teaching. Furthermore, the ESTs held relatively more strong opinions (Mean = 1.24) as compared to the head teachers (Mean = 1.23) and that they seldom took part in the workshops for their professional development. The premise of the statement manifested that the mainstream teachers seldom participated in the workshops to improve their professional skills.

Table 4.33

Teachers Participation in Seminars

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| Teachers participate in seminars. | ESTs | 65.2 | 27.3 | 3.8 | 3.8 | 1.53 | 1.842 | .60 |
| | HTs | 68.4 | 26.3 | 2.5 | 2.8 | 1.44 | | |

Table 4.33 represented that the Chi-Square test was carried out to examine the teachers and the head-teachers' responses about the teachers taking part in the educational seminars to upgrade their classroom dogmatic process. The statistical analysis showed as ($\chi^2$ (3) = 6.507, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .08 > $\alpha$ = .05). It means that the sig-value was not statistically significant. Therefore, it was described that the teachers did not take part in the educational seminars to enrich their classroom instruction. Furthermore, the ESTs held relatively more strong opinions (Mean = 1.53) as compared to the head teachers (Mean = 1.44) that they did not take part in the seminars for their professional development. The premise of the statement manifested that the mainstream teachers did not participate in the professional educational seminars to sharpen their pedagogical skills and performance.

Table 4.34

Teachers Participation in Conferences

| Statement | Status | SDA | DA | A | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|
| Teachers participate in conferences. | ESTs | 67.7 | 29.4 | 2.9 | 1.38 | 2.006 | .36 |
| | HTs | 70.2 | 28.4 | 1.4 | 1.32 | | |

Table 4.34 brought out that the Chi-Square test was executed to inquire the teachers and the head teachers' responses about the teachers' participation in professional conferences to build up their concepts and philosophies of the teaching practice in the classroom. The statistical analysis showed as ($\chi^2$ (3) = 2.006, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .36 > $\alpha$ = .05). It means that the sig-value was not statistically significant. Therefore, it was concluded that the teachers seldom took part in the professional conferences to develop their classroom instruction. Furthermore, the ESTs held relatively more strong opinions (Mean = 1.53) as compared to the head teachers (Mean = 1.44) and that they seldom took part in the educational conferences for their professional development and performance in the classroom. The premise of the statement manifested that the mainstream teachers did not participate in the professional conferences to internalize their pedagogical skills of classroom setting.

### 4.2.5 Teachers' Attitude towards Training for Professional Development

Table 4.35

Training Material and Content

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| The training material and content was effective for professional development. | Male | 51.4 | 32.8 | 7.8 | 8.1 | 1.88 | 5.193. | .15 |
| | Female | 49.0 | 39.3 | 4.1 | 7.6 | 1.80 | | |

Table 4.35 exhibited that the Chi-Square test was carried out to examine teachers' opinions regarding the training material and content was effective for the professional development of teachers. The statistical analysis showed as ($\chi^2$ (3) = 5.193, $N$ = 586 (296 Male Teachers + 290 Female Teachers), *p-value* = .15 > $\alpha$ = .05). It means that the sig-value was not statistically significant. Therefore, it was mentioned that the teachers were dissatisfied with the training material and content for their professional development. It was further observed that the mean value of the male teachers (Mean = 1.88) and the female teachers (Mean = 1.80) was almost similar about teachers' dissatisfaction regarding training modules, material and content coverage. The premise of the statement manifested that the mainstream teachers disagreed about the quality of the material and richness of the content of training leading to their professional development.

Table 4.36

Trainers' Knowledge, Presentation and Explanation of Content

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| The trainers' knowledge and presentation of content were perfect | Male | 45.9 | 23.3 | 11.8 | 18.9 | 2.34 | 5.613. | .13 |
| | Female | 45.5 | 16.6 | 15.2 | 22.8 | 2.53 | | |

Table 4.36 presented that the Chi-Square test was employed to analyze teachers' opinions regarding the trainers' knowledge and presentation. Moreover, description of the training content was engaging and relevant for professional development of the teachers. The statistical analysis showed as ($\chi^2$ (3) = 5.613, $N$ = 586 (296 Male Teachers + 290 Female Teachers), *p-value* = .13 > $\alpha$ = .05). It means that the sig-value was not statistically significant. Therefore, it was found out that the teachers seemed dissatisfied with the trainers' information, demonstration and explanation. The training material and contents were not engaging and relevant to their professional needs. It was further observed that the mean value of male teachers (Mean = 2.34) and female teachers (Mean = 2.53) was virtually same regarding teachers dissatisfaction about the trainers' knowledge, demonstration and clarification of training material. Thus, the learning material was not engaging and relevant to their professional development. The premise of the statement manifested that the mainstream teachers disagreed about the trainers' knowledge, presentation and explanation of the training material. Thus, the material was seen inadequate for professional development.

Table 4.37

Quality of Training Program for Teachers Professional Development

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| You are satisfied with the overall quality of training for professional development. | Male | 57.4 | 33.8 | 3.4 | 5.4 | 1.65 | 5.120 | .16 |
| | Female | 66.2 | 26.2 | 3.4 | 4.1 | 1.53 | | |

Table 4.37 illustrated that the Chi-Square test was managed to examine teachers' opinions regarding the overall quality of the training program for the teachers' professional development. The statistical analysis showed as ($\chi^2$ (3) = 5.120, $N$ = 586 (296 Male Teachers + 290 Female Teachers), *p-value* = .16 > $\alpha$ = .05). It means that the sig-value was not statistically significant. Therefore, it was exhibited that the teachers seemed dissatisfied with the overall quality of the training program for teachers' professional development. Moreover, it was analyzed that the mean value of male teachers (Mean = 1.65) and female teachers (Mean = 1.53) was virtually similar regarding the overall quality of training program for their professional development. The premise of the statement manifested that the mainstream teachers disagreed about the overall quality of the training program for the teachers' professional development.

Table 4.38

Physical Facilities in Training Programs Pertinent to Professional Development

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| You are satisfied with the physical facilities in training for professional development. | Male | 67.6 | 25.7 | 2.4 | 4.4 | 1.50 | 3.114 | .37 |
| | Female | 64.1 | 25.2 | 4.5 | 6.2 | 1.63 | | |

Table 4.38 indicated that the Chi-Square test was conducted to test the teachers' opinions regarding the physical facilities such as classroom, furniture and learning environment, etc. in the training program for enriching professional development. The statistical analysis showed as ($\chi^2$ (3) = 3.114, $N$ = 586 (296 Male Teachers + 290 Female Teachers), *p-value* = .37 > $\alpha$ = .05). It means that the sig-value was not statistically significant. Therefore, it was demonstrated that teachers were dissatisfied with the physical facilities in the training for the professional development. Likewise, it was observed that the mean value of male teachers (Mean = 1.50) and female teachers (Mean = 1.63) was virtually similar regarding the dissatisfaction of physical facilities on the site. The premise of the statement manifested that the mainstream teachers disagreed about the physical facilities such as classroom, furniture and learning environment, etc. in the training program for the teachers' professional development projects.

Table 4.39

Training Efficacy of Teachers' Professional Development for Teaching in Classroom

| Statement | Status | SDA | DA | A | SA | Mean | $\chi^2$ | Sig. |
|---|---|---|---|---|---|---|---|---|
| You are satisfied with training of professional development to perform practice effectively. | Male | 51.7 | 25.3 | 12.8 | 10.1 | 1.50 | 6.214 | .10 |
| | Female | 57.2 | 17.2 | 12.8 | 12.8 | 1.63 | | |

Table 4.39 stated that the Chi-Square test was conducted to examine the teachers' opinions about the usefulness of the training program for the teachers' professional development to execute instruction effectively in the classroom. The statistical analysis showed as ($\chi^2$ (3) = 6.214, $N$ = 586 (296 Male Teachers + 290 Female Teachers), *p-value* = .10 > $\alpha$ = .05). It means that the sig-value was not statistically significant. Therefore, it was revealed that the teachers were dissatisfied with the training of the professional development to conduct practice effectively. Similarly, it was analyzed that the mean value of the male teachers (Mean = 1.50) and the female teachers (Mean = 1.63) was virtually similar regarding the dissatisfaction of the efficacy of the physical facilities in the training sessions. The premise of the statement manifested that the mainstream teachers disagreed about the efficacy of training program of professional development to demonstrate in the classroom.

The inferential analysis of the data illustrated that the knowledge of educational research, collaboration with colleagues and reflection upon the teaching of the elementary school teachers had not been improved in the training pattern for the professional development of the teachers. The skills of the teachers to integrate the ICTs with pedagogy had not been developed in the projects of teachers training programs. They were not stimulated to utilize the open educational resources (OER) to share with other schools. Even the teachers did not prepare their CVs and professional portfolios. It was noted that they only participated in the training sessions which were managed by the professional educational organizations like DSD and PITE. However, they did not take part in the educational conferences for the enrichment of their classroom teaching designs.

The data of the other countries display that they are putting emphasize on the diverse teachers' professional learning activities such as (i) courses (ii) workshops (iii) mentoring (iv) peer observation (v) coaching (vi) educational conferences and seminars (vii) observational visits to other school (viii) business premises (ix) individual or collaborative research (x) in-service training packages, and (xi) qualification programs. The trend shows that the professional development activities, in which the teachers more often report participating, are courses or workshops are (71%). The professional development activities that are frequently reported are participating in the educational conferences or seminars (44%), and joining in the teacher networks/organizations (37%). The least common type of professional learning activities are observation visits to business premises or other organizations (13%) and the in-service training courses (14%)

(OECD, 2014). Mostly, the content of their professional development activities depends on the professional standards of the teachers of the respective countries.

Therefore, it is said that the training programs for the teachers' professional development rigorously ignored the standard of continuous professional development and code of conduct.

## 4.3 Qualitative Data Analysis

The process of teacher's professional development has attained a high status in the arena of education. Its mission is to improve instruction, leading to the quality of students' learning. Some significant and leading indicators of the teachers' professional development are that the teachers involve themselves in the scientific investigations and increased commitment to refine teaching practice keeping the students' needs. The teachers democratically work together with other colleagues to share their teaching successful experiences and interventions. They demonstrate reflection on their teaching plans and participate in the different capacity building programs so that they may boost up their professional knowledge, prestige, effective practice and performance of teaching in the classroom setting. Professional development of the teachers is actuated through providing them opportunities to take part in the training programs. Training is a practical and pragmatic approach to indoctrinate knowledge, values and skills of professional development. This study investigated the effectiveness of training of elementary school teachers for professional development. For in-depth investigation of research questions and achievement of objectives, the study

adopted quantitative and qualitative approaches. The research instruments such as questionnaires and interviews were developed to collect the data.

The interviews were mostly recorded and were transcribed into the text. For content analysis of the transcribed text, the leading and useful codes, themes and categories were generated from the transcribed scripts, described in table 4.40.

Table 4.40

Breakup of Codes, Themes and Categories

| Codes | Themes | Categories |
|---|---|---|
| Knowledge | Imparting knowledge and skills related to educational research | • Research Approaches<br>• Techniques<br>• Reading articles and writing for journals etc. |
| Dispositions | Demonstrate commitment to refine teaching practice keeping students' needs | • Lesson planning<br>• Presentations<br>• Assessment<br>• Integrating ICTs with pedagogy<br>• Feedback |
| | Collaboration with other teaching colleagues | • Professionals<br>• Group work |

| | | |
|---|---|---|
| | | • Discussion<br>• Colloquial Talks |
| Skills | Skills of reflecting upon teaching | • Mentoring<br>• Videotaping<br>• Portfolio |
| | Teachers participation in the programs arranged by professional educational organizations | • Training<br>• Courses<br>• Workshops<br>• Seminars<br>• Conferences etc. |

The overall results of the qualitative analysis of transcribed scripts from the interviews of master trainers expounded that the professional development of the teachers was not directly managed by them. Only few practices were implicitly arranged by the master trainers during the training sessions. They did not impart the knowledge of educational research because it was not included in the content and modules of training programs. Although they engaged teachers in few activities regarding their teaching practice in the classroom yet the professional development was entirely neglected. It embodied collaboration with the colleagues at school level and constructive reflection for the improvement of teaching practice. They also set forth the teachers' attitude of powerful learning for professional development.

### 4.3.1 Analysis of the Teachers' Extent of Knowledge about the Educational Research for the Professional Development

The knowledge and skills of the educational research forms the most important characteristic of contemporary teaching and learning process. A teacher is deemed that he/she should figure out teaching problems in the light of scientific investigation. Therefore, teacher is also entitled as a practitioner and researcher. Due to the emerging trends of solving teaching problems through teachers' participation in research, it inhibits the core and fundamental urge of the teacher to receive the knowledge of educational research.

Series of discussion are outlined here. One of the master trainers narrated the significance of research in the following words:

*It is the basic component of education and significant part of teaching and learning process. The teacher role is not only... the role of a teacher, he/she has to be a researcher. He/she has to update his/her knowledge. If a teacher is not a researcher, how he/she can improve his/her knowledge and if his/her knowledge is not improved how he/she can expand towards his/her students. This is not possible without the research. So, the research is the very major component in teaching and learning process.* (Master Trainer = MT5)

Another master trainer described the importance of inquiry in these words; *Research plays an important role to learn the practical and fresh knowledge to solve the academic problems professionally* (MT9). Continuing further, another master trainer elaborated his viewpoint as: *Research is a very useful way of getting understanding with new theories, models and methods of teaching. When a teacher cannot practice the research, he/she cannot be effective and innovative in*

*dealing with the daily problems of teaching and learning process. Hence, investigation is considered as the most modern technique to find out the solutions of teaching issues in the classroom environment* (MT8).

However, they all held that they did not impart the knowledge of research to teachers because, according to them, the material was given by the professional educational organization and was research based. It was categorically explained by a master trainer:

*First of all, I tried to offer some workable techniques which were supported by the contemporary research. I linked the research with such techniques, for example, child-centered and activity-oriented instruction and learning that work as booster for further learning* (MT1).

Especially, when he was probed about imparting the knowledge of educational research, he replied as, *I did not impart details on investigation but only described the significance of scientific knowledge and research* (MT1). Furthermore, the teachers did not take interest in the knowledge of educational research as it was expressed by one trainer, *I personally introduced certain ways of small scale inquiry but teachers did not take interest in it because it was boring topic for them* (MT8). The other master trainers also held similar stances about not imparting the knowledge of educational research. Therefore, it was not assigned much importance in content and modules of educational research approaches, techniques, methodology and other basic components of scientific investigation to the teachers for their professional development.

The skills of the teachers in the educational research are needed to solve the classroom problems at the local elementary level. The research culture in schools should be a preferred element than a traditional teaching methodology. In

many countries, teachers' professional learning time supports them to conduct the active research which has been considered to be more effective in catalyzing change in the pedagogical practices. It is also a common practice to carry out the research at local level in the Western European schools where professional development is built onto the teachers' work-time. The teachers are engaged in the collaborative research and school focused research and development activities. They are provided time and support for the studying and evaluating their pedagogical practices through research/inquiry and in sharing the findings with the school colleagues, and through conferences and publications (Darling-Hammond, Wei & Andree, 2010).

In the Pakistani context, the teachers have trial and error skills in solving their local/elementary levels problems in the classrooms environment. They seldom participate in collaborative research and development, or when they study the research findings to improve their methodologies of teaching. These are the most ignored aspects of the training programs. It is important for professional educational organizations to include practical research and development activities in their training projects for professional enrichment.

The teachers may get several benefits of utilizing the skills as the researcher. They can adopt the new methods of teaching and learning interventions; reflect upon their pedagogy and produce knowledge for collaboration with colleagues through the skills of systematic scientific methods.

The time may be allocated for conducting and participating in the research activities at the school level. The training packages of teachers' development may include the research knowledge for solving classroom-based problems and

disseminating their findings. Through this way, the in-service training programs can constructively contribute to National Professional Standards for Teachers.

### 4.3.2 The Teachers Value to Refine the Teaching Practices

Values form the second most distinguished component. They are transformed to trainee teachers during the proceedings of training. A trainer expressed the importance of teaching and linked the dispositions with the training as: *Education is not only the process of inculcation of knowledge but also the process of transformation of dispositions*" (MT9).

In other words, education is the training of mind which develops the values and attitudes. Another trainer also pointed out the values and the attitude of teachers toward learning the values as follow:

*Actually, without any value system pedagogy/teaching is simply a routine practice. If education does not inculcate certain values in the children it is futile to arrange education for the children in the schools. During the training sessions, these values are not very much emphasized but I know the values in my mind. Admittedly, when it is discussed during the training regarding subject areas such as English, math and science, so far I am concerned, I tried to develop the values. However, when you work with in-service teachers, they are very rigid over the period, and they deemed that they were real teachers, trainers know nothing practically in classroom and they knew how to teach the students. With this attitude in mind, they demonstrated rigid behavior during the training sessions* (MT1).

The disciplinary dispositions were much emphasized during the training as narrated by one master trainer:

*It started from the classroom. We set classroom norms and values like how to manage the class, how to sit in the class, how to ask questions, how to talk to others and how to behave with peers and colleagues during training. Such disciplinary dispositions were tried to develop among the teachers* (MT4).

One of the master-trainers narrated some teaching values which they would attempt to transfer in their students as:

*I tried to develop positive attitude toward teaching profession. So that teachers must like teaching profession and they can inculcate the positivity in different aspect of the students' life* (MT3).

Some eminent master trainer laid out imposing dispositions, for instance some specific teaching values which the trainers developed as, *Right and first of all I always had some kind of assessment which was the essential for the teachers' professional development. Then I tried to give some feedback on their teaching activities* (MT2). Another master trainer tried to develop the dispositions regarding religious values, *we introduced the values of Islam and the society which were very essential in the classroom as well* (MT6). Some specific teaching values, which were significantly relevant to their classroom practice keeping in view the students' academic and professional needs, were developed in the teachers like t*eachers were provided several dispositions such as lesson planning, pedagogy and assessment so that they positively performed their jobs* (MT9).

The dispositions were not included in the training materials but trainers themselves perceived and attempted to transfer in their own ways. One of the master-trainer (she) indicated that;

*Actually, transforming the dispositions was an unconscious process which needs trainer's positive attitude. I tried my best to impart the skill of planning their*

*lesson, evaluation techniques and constructive feedback on their demonstration, surely, they would apply on their students to improve their learning* (MT3).

A master-trainer described some similar and extended form of values that were developed in the trainers as:

*Teachers always considered the cognitive level of learner while teaching in the classroom. When they keep in mind the students' cognition, they try to modify their teaching practice. They should renew their knowledge and understanding regarding the basic activities of teaching such as the lesson planning, methodology, assessment, classroom management and information communication technologies. We tried to produce these fundamental skills and values in the teachers' demonstration during the training programs* (MT8).

The teaching pattern in the classroom environment required dynamic and vital dispositions such as (i) planning (ii) presentation (iii) assessment (iv) feedback (v) classroom management and (vi) ICTs integration. If the teachers give importance to these values, keeping in view the students' educational needs, they can enrich the academic accomplishment of the students.

The other trainers also mentioned similar practices and experiences which were focused in the training sessions. However, only few master-trainers undertook to develop some professional teaching values that were beneficial for the classroom practices. Majority of the master trainers continued to produce disciplinary and interdisciplinary values among the teachers. Therefore, there is a dire need to boost up the quality of the master trainers through providing multiple opportunities that improve their knowledge, skills and values.

The important point that was noted was that they lacked commitment to proceedings of the training sessions. They usually did not adopt the prescribed

material and content in the training sessions. There seemed a need to streamline the infrastructure of the selection, hiring and training personnel so that the professionally dynamic and vibrant master trainers could be produced for the provision of training of the teachers' development. When the master trainers and trainee-teachers join each other to enrich the capabilities and solve the pedagogical issues of the teaching through pleasant environment, it shapes the collaborative culture.

### 4.3.3 The Collaboration with the Teaching Colleagues

The sharing of ideas to improve the teaching practice formed the fundamental value which trainers attempted to develop in the trainee teachers during the training sessions. They produced democratic and egalitarian values of collaboration in order to enhance the practice of the teachers. The group work and the discussion formed the two major parameters of collaboration which they focused during the training programs. Frequently, it was mentioned by all the trainers that they provided group activities for discussing their teaching problems. One master trainer narrated his view point in these words:

*I made groups during training sessions. All types of teachers were the members of the groups. Only the group leader did not participate in the activity, on the other hand, it was binding on every member to perform in the group according to the potentials. Through this activity, we transformed values to teachers who unconsciously were learning the collaborative activity. Surely, they would make groups in the classroom. Through the collaboration process, we made correction through consultation, developed democratic vision, created the value of respecting the opinions of others and produced the competitive and affiliated*

*environment. We provided parallel view point on the teachers' point of view without disagreeing with their assignment and projects* (MT1).

The other master-trainer outlined the views about the teachers work together as;

*Whenever we were at school, we should be cooperative teachers. We should think that they were the members of the school family. We should work according to the needs of students. The main concern was that of the students and their achievements. So, when we thought and when they needed them to understand that we are not so much important as the importance should be given to the students. Therefore, collaborative efforts were very potential. As much as teachers were close to each other, the learning of the students would be improved* (MT2).

One master-trainer also favored the interactive learning and collaboration among the colleagues and described it as:

*I think that peer and interactive learning was very important. Sometimes, we saw it as reflective learning or reflective teaching also. Normally we requested them to reflect their teaching experiences to other teachers. We also stressed when they joined the training that please discuss the pedagogical skills and shared how to solve classroom problems related to the teaching and learning areas with the colleagues. I think that peer learning was very imperative for improving teaching especially one teacher was mentor having higher experience and one novice teacher having less experience was mentee, then peer learning was every effective* (MT8).

However, the real picture was sketched by a master-trainer about the collaboration and the teachers mentoring program as follow:

*Working together with teachers was the main characteristic of teachers' training program. We attempted to develop groups of teachers so that they democratically shared their ideas of teaching with each other. They demonstrated their collaboration and coordination in work and tried to accomplish their teaching projects with the help of associates during training. They particularly took interest in negotiation regarding teaching issues. Besides, they were got involved in mentoring program of learning from experienced teachers* (MT8).

Mentoring was discussed in a detail by another female master trainer as:

*I tried my best to introduce new concepts of refining their skills by adopting the mentoring process and program. The modern concept of teaching is mentoring in which more experienced and more qualified colleagues shared their experiences with less experienced in a friendly environment. Through the program of mentoring they discussed their educational problems and classroom experiences with each other within the premises of school, staffroom, library, classroom and other sites.* (MT4).

Nevertheless, one master trainer indicated those activities that engaged teachers to collaborate with each other as:

*Unfortunately, the teachers considered that teaching was a relaxing profession in which teachers were stress free. They only sat in the chair and assigned students to memorize and write the rote content. This was a traditional approach which caused many snags in teaching and learning process. However, I tried my best to lure this thinking toward engaging teachers in a number of activities which were very helpful for their effective job in the classroom during training sessions* (MT9).

The collaboration with the colleagues is the professional learning activity that not only enhances substantial improvement in the students' learning outcomes but also diminishes the isolation in the classroom environment and carries the career rewards and daily satisfaction. Through formal and informal in-service training patterns, the teachers support each other and share the available pool of ideas, methods and leading material.

In the academic and schooling context at the district level, some collaborative activities such as group dynamics, cooperative learning, mentoring and discussion were focused by the trainers in the training programs of teachers' development. However, there was no ICTs based collaboration activity which was specially focused area in the modern trends of professional development of the teachers. There is need to systemize the collaboration process at elementary level of education keeping in view the ICTs integration with professional development. Especially, the mobile technology needs to be adopted for the collaboration with the colleagues because it is the quick, the cheap and the strong electronic source. The internet facility is also available to observe and seek out the suitable teaching and learning resources i.e. articles, e-learning, web-sites, e-library, and videos, etc. to accelerate the pedagogical progress in the classroom setting

Furthermore, there is a need of scheduling the regular collaboration process at schools. In this respect, the hierarchy of educational administration is expected to support the activities of collaboration in the schools.

### 4.3.4 The Skills of Reflecting upon Teaching

The reflective practice is both theoretical and practical approach which was frequently adopted by the teachers to improve their own learning in the classroom setting. Somehow special activities, for instance, writing diary, reading

research articles, watching teaching videos, and developing portfolio development generated critical activities analyzing teaching activities were tried by trainers to develop reflection among the teachers.

One of the master trainers stated as:

*Self-assessment in teaching was certain kind of activity which was introduced in the training to correct their drawbacks in carrying out teaching. The teachers were engaged in writing professional dairies and valuable analysis of demonstration to reflect on their teaching* (MT7).

Another trainer also stated his view point in the following words:

*I requested the teachers to self-evaluate their own teaching and to write honestly the critique on their own teaching process as someone was observing their teaching. Especially, observing critically their colleagues' teaching and suggest some recommendations that how would they make their presentation, classroom arrangement and teaching methodology better. I also stimulate teachers to write critique on the modules, knowledge sharing, lecturing and content which are provided to them. I also engaged them to write report on their previous day activities, its pros and cons and suggest some recommendations for the betterment in the teaching and learning process* (MT1).

Another master-trainer pointed out as:

*Engaging teachers in these activities was very helpful in improving their teaching skills. But actually, during training sessions, they felt shy and reluctant to demonstrate on the stage and board. After some motivation, they came on the stage and demonstrate the lecture. They had been given five minutes to ponder over their drawbacks of their teaching. And they were to disappointedly share their ideas through some writings. But they usually hesitated to do such kind of*

*activities. However, they evaluated themselves in a good way and tried to improve their own teaching behavior and skill* (MT2).

One senior female trainer narrated as:

*Actually, there was variation in the responses among the teachers according to their age groups and experiences. They belonged to heterogeneous groups such as novice and old teachers. Especially the novice teachers were much ambitious and motivated and on the other hand the old teachers were less ambitious. Both exhibited different attitudes towards analyzing their teaching patterns and designs, the novice teachers took it as challenge while the old teachers did not respond actively. Sometimes the old teachers wrote diary but could not manage it over the long periods. They could not manage their portfolios up to the mark* (MT3).

One master trainer discussed it as:

*Sometimes, they were engaged in activities such as to write and discuss their teaching drawbacks. But they felt hesitation to participate in such activities, especially in writing, their teaching shortcomings* (MT4 & MT5).

Some experienced master-trainers outlined the entire aspects of reflection as:

*There were several activities such as demonstration, discussion and documentation to reflect on the teaching for the effective performance in the classroom setting. The portfolio was the kind of documentation in which they critically analyzed training sessions and in which trainees described the day to day assignments, pedagogical skills, content of specific subjects, presentations, assessment, scripts and modules. I emphasized on the development of professional portfolios and the teachers' prepared colorful and eye-catching portfolios in*

*which they analyzed their teaching critically. They did not complete their assignments with their own wish and they always tried to avoid this kind of projects and portfolios* (MT9).

These were only few activities which were emphasized during training. However, no trainer emphasized on taping and watching teaching videos, writing and reading of articles to analyze teaching practice critically which actually enhanced their professional skills of reflection in the light of modern theory of reflection. So, there is a dire need to provide the content, material and professional learning activities about reflective practices according to the state of the art patterns and by using the digital devices i.e. mobiles, tabs, computers, cables and internets, etc. to enhance the professional skills and potential of the teachers.

### 4.3.5 Teachers Participation in the Programs Managed by the Professional Educational Organizations

Professional educational organizations managed different programs for the professional development of teachers so that they could effectively perform in the classroom by learning new theories about classroom practice. Training, courses, workshops, seminars and educational conferences were deemed as the major sources of imparting new skills and knowledge for the classroom practice of teaching. Nevertheless, only training was considered the most effective program for the teachers' professional development during the training sessions.

The importance of the training was mentioned as:

*Teaching was not a normal job. It took a lot of attention on the part of teachers. Therefore, they had to attend the training to improve them. I stressed on*

*participation in these courses especially in the training to improve their jobs' skills and professional learning* (MT6).

The trainer pointed out that for the teachers' professional development the training was the best activity because it provided the skills of teaching profession.

Some other trainers also had the same point of view such as:

*Training played important role in the teachers to attain maturity in practical knowledge and skills about teaching profession* (MT5).

However, one of the major drawbacks which was described about the attitude of the teachers towards such programs as follow:

*The attitude of not receiving training in our teachers was the prominent attitude. I guided them to participate in courses arranged by different professional organizations in order to become more competent teachers. They asked me who would pay and bear expenses of such courses. I did not have any answer. Honestly speaking, they were least motivated and simply declined learning of new knowledge, methodology and research regarding teaching for improving classroom performance* (MT1).

The similar viewpoints were depicted as:

*Whenever teachers were imposed some kind of compulsion they got involved in training otherwise, they thought training was not necessary for their professional development. So it became some kind of practice that if they should be paid they would receive it. They had no tendency to participate in such kinds of courses, workshops and conferences arranged by different professional organizations in order to improve them professionally* (MT2).

Training was considered the major source of improving the professional prestige of teaching. However, master trainers did not point out the other

programs such as courses, workshops, seminars and conferences for the professional development of the teachers.

There are many factors that teachers are the least motivated in the training sessions. As it mentioned before that the other professional activities of the teachers' development has stressed rather than training in many countries. It is the least reported professional development activity (OECD, 2014). The other reason is that the teacher is the person who received the least amount as the remunerations of the training session even that they have to pay in the professional learning programs. As a result, the teachers' mindset and behavior towards the training has changed and they show no interest and commitment in training sessions. Therefore, other types of professional learning activities such as courses, workshops, seminars, field trips and visiting other schools and business premises can be included in the development programs of the teachers so that they could gain motivation and commitment towards learning their job skills and capacities.

Professional development of teachers is the most vital element to the quality of educational structure and students' achievements. The infrastructure of professional development of teachers (PDOT) needs full attention of the public and professional organizations for enriching their pedagogical attitude and behavior. For this purpose, the philosophy, contents, materials, modules, activities, pattern of professional learning and resource persons etc. may be updated and overhauled in the light of the National Professional Standards for Teachers.

The next chapter suggests some suitable and applicable recommendations in this respect.

# CHAPTER 5

# SUMMARY, FINDINGS, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Summary

Professional development of teachers is the main focus and vital area which refers to upgrade job related skills, attitudes and knowledge in order to employ the best teaching practices in the classroom setting for students' high level achievements. This study formulated the following objectives:

1. To assess the effectiveness of in-service training in developing the teachers' knowledge of educational research for the professional development.
2. To explore the effectiveness of in-service training in developing the teachers' values of refining the teaching and collaborating with colleagues for the improvement of the practices.
3. To investigate the effectiveness of in-service training in developing the teachers' skills of reflecting on teaching and engaging in professional programs for learning and practices in the classroom setting.
4. To analyze the opinions of the teachers about the professional development through in-service training programs and projects.

To address the abovementioned objectives, four research questions and one hypothesis were formulated. The mixed methods research design was adopted because it could mingle quantitative and qualitative patterns of investigation. It

provides better understanding of professional development of the teachers. The sample size of 586 elementary school teachers (ESTs) and 285 elementary schools head-teachers (HTs) mandated resulting from using the simple random sampling techniques while 25% of the master-trainers out of 45 commissioned as sample through purposive sampling techniques. Two research instruments; questionnaire and interview were employed in this investigation. There were two research questionnaires; first for elementary school teachers and second for elementary head teachers. Both the questionnaires consisted of identical content. The interview was also formulated for the delivery of training program indenting professional development of teachers. Both the instruments were validated through experts' opinions and found consistent through pilot testing. Reliability was established through Cronbach Alpha technique. Following filed work, the quantitative data were analyzed by employing percentages, means and chi-square statistical techniques through using SPSS version 16 software. The qualitative information was transcribed into text because it provided in-depth facts and evidences of training program regarding professional development of the teachers.

## 5.2 Research Findings

Keeping in view the objectives and research questions of the study, analysis of the data yielded the following findings:

### 5.2.1 The Development of Teachers' Knowledge regarding the Educational Research

The first objective was to assess the effectiveness of in-service training in developing the teachers' knowledge of the educational research for the professional development. For achieving this objective, a null hypothesis was

developed. The finding to develop teachers' extent of knowledge about educational research are presented in this section.

## Research Finding 1

The null hypothesis, 'there is no significant development in teachers' knowledge of educational research for professional improvement through in-service training,' was examined through employing Chi-Square statistical test in table 4.12. Analysis exhibited that ($\chi^2$ (4) = 1.485, $N$ = 586, $p$-value = .82 > .05). The statistical evidences yielded that sig-value was not statistically significant at the significance level. Therefore, the null hypothesis was accepted. It was found that educational research knowledge of teachers was not developed during in-service training to perform their teaching practice effectively in the classroom setting [Quantitative Analysis = (QUANT.ANAL.)].

The same viewpoint was categorically explained by master-trainers as:

*I did not impart detailed knowledge on investigation but only described the significance of the scientific knowledge and research* (MT1). Furthermore, the teachers did not take interest in the knowledge of educational research as it was expressed by one trainer, *The teachers did not take interest in educational research because it was boring topic for them* (MT8). Other master trainers also held similar stances about not imparting the knowledge of educational research. It was deduced that teachers were not provided the knowledge of educational research for enhancing their professional development [Qualitative Analysis (QUAL. ANAL.)].

Hence the crux of above discussion shows that teachers did not have the knowledge of educational research for internalizing their professional development.

### 5.2.2 Development of Teachers' Values to Refine Teaching Practices

The second objective was to explore the effectiveness of in-service training in developing teachers' values of refining teaching and collaborating with the colleagues for the improvement of practices. It combined two parts, refining teaching and collaboration with the colleagues. Therefore, these parts were addressed separately under above-mentioned two captions. To address this objective, the research findings are presented in details.

### Research Finding 2

The Pearson Chi-Square test was conducted to measure the teachers and the head-teachers' responses about the teachers refining their skill of lesson planning, keeping in view the overall needs of the students. The calculation in table 4.13 presented as ($\chi^2$ (3) = 1.10, $N$ = 871 (586 EST Teachers + 285 Head Teachers), $p = .00 < \alpha = .05$). Hence, the analysis depicts that the teachers refined their skill of lesson planning, keeping in view the overall needs of the students (QUANT.ANAL.).

Some specific teaching values are purely relevant to their classroom practice in relation to the students' needs. One master trainer pointed out as, *Teachers were provided several dispositions such as lesson planning, pedagogy*

*and assessment so that they positively performed their jobs* (MT9). *I tried my best to impart planning to their lesson, evaluation techniques and constructive feedback on their demonstration, surely, they would apply it to their students to improve the learning* (MT3). Other trainers also had already mentioned the similar practices which were focused during the training sessions. It revealed that the teachers were imparted the value of the lesson planning during the training of professional development (QUAL. ANAL.).

The above statistical and narrative analysis pointed out that the elementary school teachers valued the lesson planning, keeping in view the overall needs of the students.

## Research Finding 3

Table 4.14 revealed that the Pearson Chi-Square test was carried out to find out how far the teachers refined their classroom environment keeping in view the overall needs of the students. The analysis indicated as ($\chi^2$ (3) = 3.487, $N$ = 871 (586 EST Teachers + 285 Head Teachers), $p = .00 < \alpha = .05$). It is perceived that the elementary school teachers refined their classroom environment viewing the overall needs of the students (QUANT.ANAL.).

The master trainer described some values that were developed in the trainees as:

*The teachers always consider the cognitive level of learner while teaching in the classroom. When they keep in mind the students' cognition, they tried to modify their teaching practice. They should renew their knowledge and understanding regarding the basic activities of teaching such as lesson planning, methodology,*

*assessment, classroom management and information and communication technologies. We tried to produce these basic skills and values in teachers' demonstration during the training programs* (MT8).

Therefore, the elementary school teachers refined and valued the practice of classroom management and environment (QUAL. ANAL.).

The above discussions reflected that the elementary school teachers valued the practice of the classroom management and environment, keeping in view the overall needs of the students in particular.

## Research Finding 4

According to table 4.15 the Pearson Chi-Square test was carried out and the analysis indicated as ($\chi^2$ (3) = 3.680, $N$ = 871 (586 EST Teachers + 285 Head Teachers), $p$ = .00 < $\alpha$ = .05). So, it is stated that the teachers assessed students work while viewing the comprehensive needs of the learners (QUANT. ANAL.).

The analysis of the text highlighted that the teachers assessed their students work in the classroom setting. The master-trainer described it as: *First of all I always had some kind of assessment which was essential for the teachers' professional development* (MT2). Another master trainer explained that, *I tried my best to impart constructive feedback on their demonstration, surely, they would apply it to their students to improve the learning* (MT3). Therefore, it was expressed that the elementary school teachers valued the assessment skills in the classroom practice of teaching (QUAL. ANAL.). Hence, the elementary school teachers valued the assessment practice, keeping in view the overall needs of the students.

## Research Finding 5

Table 4.16 presented the analysis as ($\chi^2$ (3) = 2.899, $N$ = 871 (586 EST Teachers + 285 Head Teachers), $p$ = .00 < $\alpha$ = .05). So, it described that the teachers provided feedback keeping in view inclusive needs of the learners (QUANT. ANAL.).

The feedback was the most important element of teaching. The master trainer illustrated the facts in these words that. *I tried to give some feedback on their teaching activities* (MT2) (QUAL. ANAL.).

So, the elementary school teachers valued the feedback practice viewing the overall needs of the students.

## Research Finding 6

Table 4.17 demonstrated that the analysis was indicated as ($\chi^2$ (2) = 2.00, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .36 > $\alpha$ = .05). Thus, it means that the teachers did not use ICTs while performing professional practice of teaching in the classroom setting (QUANT. ANAL.).

ICTs have a close link with pedagogy for developing motivation and interest of the students in the classroom setting. One of the most senior master-trainer pointed out that, *I provided the information and communication technologies (ICT)* (MT8). But no other master trainers passed the comments about the provision of ICTs during the training programs (QUAL. ANAL.).

Therefore, it is concluded that the elementary school teachers did not value using information communication technologies (ICTs) viewing the overall needs of the learners.

### 5.2.3 The Development of the Teachers' Collaboration with the Colleagues

The second objective had two parts; the first part was narrated above while the second part regarding collaboration with the colleagues is discussed here. The research findings are presented as follow:

### Research Finding 7

Table 4.18 presented the analysis as ($\chi^2$ (3) = 53.699, $N$ = 871 (586 EST Teachers + 285 Head Teachers), $p$ = .00 < $\alpha$ = .05). So, it was deduced that the teachers tend to work together with teaching colleagues at schools (QUANT. ANAL.).

Approximately every master trainer explained and emphasized the importance of collaborative work. For instance one of the master-trainers illustrated:

*Whenever we were at school, we should be cooperative teachers. We should think that we are the members of the school's family. We should work according to the needs of the students. The main concern was the students and their achievements. Therefore, when we thought and when we needed them to understand that we are not so much important as the importance should be given to the students. That is why, collaborative efforts were very potentials. As much as teachers were close to*

*each other, the learning of the students would be improved in the classroom setting* (MT2).

So, it was construed that the teachers held the deposition to work together at school (QUAL. ANAL.)

Consequently, it was found from the above analysis that the elementary school teachers had disposition to collaborate with other teaching colleagues at the school.

## Research Finding 8

Table 4.19 explained that the calculated analysis as ($\chi^2$ (2) = .438, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .80 > $\alpha$ = .05). So, it articulates that the teachers do not have the disposition of working together at other schools (QUANT. ANAL.)

The importance of collaborative work was mentioned by one the master trainers as:

*Unfortunately, teachers consider that the teaching is a relaxing profession in which teachers are stress free. They only sit in the chair and assign students to memorize and write the rote content. This is a traditional approach which causes many snags in the teaching and learning process. However, I tried my best to shift this thinking toward engaging the teachers in a number of activities which are very helpful for their effective job in the classroom during the training sessions* (MT9). (QUAL. ANAL.)

Hence, the teachers showed disagreement of working together with teaching colleagues of other school.

So, the in-depth analysis depicted that the elementary school teachers disregarded collaborative learning for solving their pedagogical problems.

## Research Finding 9

Table 4.20 unveiled that the Chi-Square test was piloted to probe teachers and head teachers' responses about teachers work together with colleagues at other places except schools to develop practice of teaching. The statistical analysis disclosed as ($\chi^2$ (2) = 4.629, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .09 > $\alpha$ = .05). The numerical analysis determines that the teachers did not work together with the colleagues at other places except their own schools (QUANT. ANAL.)

The disposition of collaboration among the teachers is the major approach of the professional development programs and it was clearly mentioned by some master trainers as:

*I made groups during training sessions. All types of teachers were the member of the groups. Through this activity, we transformed values to the teachers unconsciously about learning the collaboration activity* (MT1).

*Whenever we were at school, we should be cooperative to each other. We should think that we were the member of the school's family. Therefore, the collaborative efforts were very potentials. As much as teachers were close to each other, the learning of the students could be improved in the classroom setting* (MT2).

Thus, the master- trainers provided the value of collaboration among the teachers. However, the trainers did not transform the value of working at other places except schools. (QUAL. ANAL.)

So, it was concluded that the elementary school teachers did not work together with colleagues at other places except their own schools.

## Research Finding 10

Table 4.21 displayed that the Chi-Square test was managed to test teachers and head teachers' responses about the teachers work together with other professionals to boost up teaching in the classroom setting. The statistical analysis revealed as ($\chi^2$ (2) = .278, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .87 > $\alpha$ = .05). The statistical analysis illustrates that the teachers did not work together with the professional of other disciplines for improving the classroom practices. (QUANT. ANAL.)

The master trainers favored the interactive learning and collaboration among the colleagues and described it as:

*I think that peer and interactive learning is very important. Sometimes, we see it as reflective learning or reflective teaching also. Normally we ask them to reflect their teaching experiences to other teachers* (M1).

The qualitative analysis highlights this aspect that the trainers provided the value of collaboration for the teachers. However, the trainers did not transform the values of working in intra-disciplinary context and intra-professional experts. (QUAL. ANAL.)

Finally, it was perceived that the elementary school teachers did not consider the value of working in intra-disciplinary context: and intra-professional experts for their professional improvement.

## Research Finding 11

Table 4.22 exposed that the Chi-Square test was employed to find out teachers and head teachers' responses about the teachers' activities to collaborate with the mentors to enhance the professional skill of teaching in the classroom setting. The statistical analysis presented as ($\chi^2$ (3) = 3.53, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .31 > $\alpha$ = .05). The statistical analysis endorses that teachers did not give the value to collaborate with mentors inter-disciplinary/professional experts for improving the classroom practice. (QUANT. ANAL.)

Most of the master trainers favored mentoring programs and they described it as:

*I think that peer learning was very imperative for the improvement of teaching especially when one teacher was mentor having higher experience and some novice teacher having less experience was mentee, then peer learning was so effective* (M7).

The mentoring was discussed in detail by another female master trainer as: *I tried my best to introduce new concepts of refining their skills by adopting the mentoring process. The modern concept of teaching is mentoring, in which more experienced and more qualified colleagues could share their experiences with less experienced in a friendly environment. Through the program of mentoring they discussed their educational problems and the classroom experiences with each other within the premises of school, staffroom, library and classroom, etc.* (MT4).

*But they always hesitated to do this kind of activities. However, they believed in evaluating themselves in a good way and try to improve their own teaching skills* (MT2).

So, the trainers provided the value of collaborating with experienced and veteran teachers. (QUAL. ANAL.)

Thus, it was discovered that the elementary school teachers did not have the value of working with the mentors. However, the teachers were reluctant to the idea of working under the supervision of experienced teachers.

### 5.2.4 The Development of Skills of reflection and Engagement in the Programs for Professional Learning

The third objective was to investigate the effectiveness of in-service training in developing skills of reflecting on teaching and engaging in the professional programs for learning and practices in the classroom setting. This objective had two parts: first part was about the development of reflective practices and the second part was about the development of teachers' participation in professional development programs. These two parts are separately discussed now.

#### 5.2.4.1 Development of Skills of Reflection

The first part of third objective was the development of skills in reflecting upon the teaching practice to improve the classroom instruction. The results are presented as:

## Research Finding 12

Table 4.23 exhibited that the Chi-Square statistical analysis showed as ($\chi^2$ (3) = 24.641, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .00 < $\alpha$ = .05). It means that the sig-value was statistically significant and teachers wrote their own professional diary to reflect on their teaching. (QUANT. ANAL.)

Writing the diary as the reflective activity was practiced during the training sessions. Most of the master-trainers provided the practice of writing professional diary. As described by some master trainers;

*The self-assessment in the teaching was a certain kind of activity which was introduced in the training to correct their drawbacks in carrying out the teaching practice. The teachers were engaged in writing professional dairies* (MT7).

The trainer also mentioned that:

*I asked teachers to self-evaluate their own teaching performance to write honestly the critique on their own teaching process. I also stimulated teachers to write critique on the modules, knowledge sharing, lecturing and content which is provided to them. I also engaged them to write report on their previous day activities, its pros and cons and suggest some recommendations for the betterment of teaching in the classroom environment* (MT1).

One master trainer discussed it as:

*Sometimes, they were engaged in activities such as writing and discussing their teaching drawbacks. But they felt hesitation to participate in activities; especially in writing their teaching shortcomings* (MT4 & MT5).

The qualitative analysis reflects that the master-trainers guided the trainees to write professional diary to reflect upon their teaching and performance. (QUAL. ANAL.)

So, it was formed that the elementary school teachers wrote the professional diaries and critically analyzed their teaching.

## Research Finding 13

Table 4.24 explained that the Chi-Square statistical analysis exhibited as ($\chi^2$ (1) = .205, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .67 > $\alpha$ = .05). It means that the teachers did not write the research articles. (QUANT. ANAL.)

Actually, the knowledge of the educational research had not been imparted to the teachers during the training sessions. Most of the master trainers provided the trivial knowledge of scientific inquiry, as described by a master-trainer as:

*I did not impart details on investigation but only described the significance of scientific knowledge and research* (MT1). (QUAL. ANAL.)

Finally, it was found that the elementary school teachers did not write research article for the improvement of classroom practices.

## Research Finding 14

Table 4.25 demonstrated that the Chi-Square statistical analysis revealed as ($\chi^2$ (1) = .522, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .47 > $\alpha$ = .05). It is analyzed that the teachers did not read the research articles in order to polish up their instruction in the classroom setting. (QUANT. ANAL.)

The study of the latest articles and findings of the researches are also helpful for the development of the classroom practices and the learning outcomes of the students. Most of the master trainers were provided the trivial knowledge of scientific inquiry, as described by on master-trainer:

*I personally introduced certain ways of small scale inquiry but teachers did not take interest in it because it was boring topic for them* (MT8).

The analysis draws the result that the trainees did not have expertise of the educational research and did not read the research articles to reflect upon their teaching practice. (QUAL. ANAL.)

So, it was formed from the above analysis that the elementary school teachers did not read the research articles for the improvement of classroom practices. However, research indicates that reflective practice of writing articles in journals could change teachers' instructional skills in positive way. Besides, it could promote their 'instructional effectiveness' and above all critical thinking of the teacher and the learner too.

## Research Finding 15

Table 4.26 displayed that the Chi-Square statistical analysis ($\chi^2$ (3) = 7.805, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .05 > $\alpha$ = .05). It revealed that teachers were observed by their peers. (QUANT. ANAL.)

The narratives of the master-trainers indicated that most of the master trainers provided the practice of peer observation to improve teaching, as described by one master-trainer:

*Teachers were engaged in valuable analysis of demonstration to reflect on their teaching* (MT7).

One of the master-trainer also expressed his views by saying that,

*I emphasized teachers to evaluate each other's teaching by observing teaching analytically. Specially, teachers were asked to observe critically their colleagues' teaching style and suggest some recommendations as to how they would make their presentation, classroom arrangement and teaching methodology better* (MT1).

To summarize the qualitative analysis, it was found out that the trainees could evaluate their teaching critically through peer observations. (QUAL. ANAL.)

So, an inference was drawn that the elementary school teachers observed each other's practice in the classroom for the improvement of teaching practice and skill.

## Research Finding 16

Table 4.27 designated that the Chi-Square statistical analysis revealed ($\chi^2$ (2) = 3.191, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .20 > $\alpha$ = .05). It was meant that the teachers did not videotape their classroom instruction to enhance their pedagogical skills and performance. (QUANT. ANAL.)

Most of the master trainers provided the practice of peer observation, discussion and demonstration to improve teaching utilizing the latest technological techniques, such as videotaping was neglected. Another aspect of this delinquency was the trainee teachers' attitude towards training.

Another master-trainer pointed out it as:

*Engaging teachers in such activities could be very helpful in improving their teaching skills. But actually, during the training sessions, they felt reluctance to demonstrate on the stage and board. They always hesitated to do such kinds of activities* (MT2).

Hence, it was summarized that the trainee teachers did not video tape to reflect upon their teaching practice. (QUAL. ANAL.)

Consequently, it was perceived that the elementary school teachers did not video tape their practice of teaching in the classroom setting.

## Research Finding 17

Table 4.28 showed that the Chi-Square statistical analysis ($\chi^2$ (2) = 5.101, $N$ = 871 (586 EST Teachers + 285 Head Teachers). *p-value* = .07 > $\alpha$ = .05). It was articulated that teachers did not develop their teaching portfolio for the purpose of reflection on their teaching. (QUANT. ANAL.)

After thorough qualitative analysis of the text, it was inferred that program about the professional development of teachers did not develop the expertise in their portfolio development. One female trainer commented:

*Actually, there was variation in the responses among the teachers according to their age groups. They belonged to heterogeneous groups such as novice and senior teachers. Especially the novice teachers were much ambitious and motivated and on the other hand the senior teachers were less ambitious. They did not manage their portfolios up to the mark* (MT3). Another master-trainer

described it as, *they did not complete their assignments with their own wish and they always tried to avoid this kind of projects and portfolios* (MT9).

The qualitative analysis verbalized that the trainee teachers did not develop professional portfolios. (QUAL. ANAL.)

Precisely, it was stated that elementary school teachers did not develop their professional portfolios.

## Research Finding 18

Table 4.29 presented that the Chi-Square statistical analysis ($\chi^2$ (2) = 5.150, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .16 > $\alpha$ = .05). It is concluded that the teachers did not have the knowledge of National Professional Standards of Teaching. (QUANT. ANAL.)

Unfortunately, the qualitative analysis of the text clarifies that no master trainer pointed out the importance of National Professional Standards for Professional Development of Teachers. (QUAL. ANAL.)

So, it was said that the elementary school teachers did not familiarize themselves with the National Professional Standards of Teaching that was published by Govt. of Pakistan in order to potentiate their pedagogical knowledge, values, and skills in the profession of teaching.

## 5.2.4.2 The Teachers' Participation in the Programs for Professional Development

The third objective had two parts: part first was discussed above and part second is discussed in the subsequent section. The findings are such as:

## Research Finding 19

Table 4.30 exposed that the Chi-Square statistical analysis ($\chi^2$ (3) = 6.507, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .08 > $\alpha$ = .05). It is expressed that the teachers did not participate in courses to improve their classroom instruction. (QUANT. ANAL.)

The qualitative analysis of the text exposed the same circumstances that the teachers were provided the guidelines of attending the course. However, their attitude could not be altered. As a master-trainer pointed out as:

*I guided them to participate in courses arranged by the different professional organization in order to become competent teachers. They asked me who would pay and bear the expenses of these courses. I did not have any answer* (MT1). *I stressed on participation in these courses especially in training to improve their jobs and profession* (MT6). (QUAL. ANAL.)

Therefore, it was deduced that the elementary school teachers did not take part in the courses managed by the professional educational organizations for improving their classroom practices.

## Research Finding 20

Table 4.31 shown that the Chi-Square test statistical analysis ($\chi^2$ (3) = 1.916, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .00 < $\alpha$ = .05). It is described that the teachers participated in training programs to improve their classroom instruction. (QUANT. ANAL.)

Further, the master-trainers descriptions about the training presented that the teachers were provided the guidelines of attending the training. One master trainer described it as,

*The training played an important role in the teachers' performance to attain maturity in practical knowledge and skills about teaching trends in the profession* (MT5). (QUAL. ANAL.)

Hence, it was found that the elementary school teachers participated in training to improve their professional practice of instruction and to elevate their pedagogical services and presentation in the classroom setting.

## Research Finding 21

Table 4.32 exposed that the Chi-Square statistical analysis ($\chi^2$ (1) = 6.507, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .67 > $\alpha$ = .05). It is portrayed that the teachers did not join the educational workshops. (QUANT. ANAL.)

The thorough qualitative analysis of the text communicated that the teachers were provided the guidelines of attending the workshops. One master trainer described it as,

*Avoidance of receiving training in our teachers was the prominent attitude* (MT1). (QUAL. ANAL.)

Therefore, it was revealed that elementary school teachers did not participate in the educational workshops that provided skills, attitudes and knowledge for the revitalization of their classroom instruction.

## Research Finding 22

Table 4.33 characterized that the Chi-Square statistical analysis ($\chi^2$ (3) = 6.507, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .08 > $\alpha$ = .05). It is rendered that the teachers did not participate in the professional educational seminars to modify their classroom instruction and management. (QUANT. ANAL.)

The narrative analysis of the text displayed that the teachers were provided the guidelines of attending the seminars. One master trainer described it as:

*Honestly speaking, they were least motivated and simply refused learning of new knowledge, methodology and research regarding teaching and improving classroom performance* (MT1).

Same viewpoint was narrated by a master-trainer as:

*Whenever teachers were imposed certain kind of compulsion they got involved in training otherwise they thought the training was not necessary for their professional development* (MT2). (QUAL. ANAL.)

To conclude it was found out that the elementary school teachers did not like to take part in the educational seminars, whatsoever.

## Research Finding 23

Table 4.34 presented that the Chi-Square statistical analysis ($\chi^2$ (3) = 2.006, $N$ = 871 (586 EST Teachers + 285 Head Teachers), *p-value* = .36 > $\alpha$ = .05). It is perceived that the teachers did not take part in professional educational conferences to elevate their classroom teaching. (QUANT. ANAL.)

The qualitative analysis of the text reflected that the teachers were provided the guidelines of attending the educational conferences. One master trainer described it as:

*They had no tendency to participate in such kind of courses, workshops and conferences arranged by the different professional organizations to improve them professionally* (MT2). (QUAL. ANAL.)

So, it was described that the elementary school teachers did not get involved in the educational conferences to improve the professional practice of teaching.

### 5.2.5 Teachers' Attitude towards Training for Professional Development

The fourth objective was to analyze the opinions of the teachers on professional development through in-service training. The findings are presented below.

### Research Finding 24

Table 4.35 revealed that the Chi-Square statistical analysis showed as ($\chi^2$ (3) = 5.193, $N$ = 586 (296 Male Teachers + 290 Female Teachers), *p-value* = .15 > $\alpha$ = .05). It was expressed that the teachers were dissatisfied with the training material and content being used for their professional development.

### Research Finding 25

Table 4.36 displayed that the Chi-Square statistical analysis ($\chi^2$ (3) = 5.613, $N$ = 586 (296 Male Teachers + 290 Female Teachers), *p-value* = .13 > $\alpha$ =

.05). It was derived that the teachers were dissatisfied with the trainers' information, demonstration and explanation of training material and content was not so impressive and comprehensive for their professional development.

## Research Finding 26

Table 4.37 illustrated that the Chi-Square statistical analysis ($\chi^2$ (3) = 5.120, $N$ = 586 (296 Male Teachers + 290 Female Teachers), *p-value* = .16 > $\alpha$ = .05). It was perceived that the teachers were dissatisfied with the overall quality of the training program for the professional development of the teachers.

## Research Finding 27

Table 4.38 showed that the Chi-Square statistical analysis ($\chi^2$ (3) = 3.114, $N$ = 586 (296 Male Teachers + 290 Female Teachers), *p-value* = .37 > $\alpha$ = .05). It was stated that teachers were dissatisfied with the physical facilities during the training sessions for the professional development of the teachers.

## Research Finding 28

Table 4.39 presented that the Chi-Square statistical analysis ($\chi^2$ (3) = 6.214, $N$ = 586 (296 Male Teachers + 290 Female Teachers), *p-value* = .10 > $\alpha$ = .05). It was observed that the teachers were dissatisfied with the training of professional development to perform practice effectively.

## 5.3 Discussion

This study concluded that the in-service training from 2009-2012 lacked in academic and professional delivery to prove to be effective for professional development of the teachers. It did not develop the educational research knowledge in the elementary school teachers. Development of values of collaborating with the teaching colleagues was not improved and the professional skills of reflection as well as participation in the professional programs were inadequate for enhancing practice of teaching in the classroom. The elementary school teachers also expressed dissatisfaction over the content, material, presentation and effectiveness for practice of teaching of in-service training for the professional development. The trainers also reflected that the teachers' learning attitude and behavior about the training were not up-to-the mark and they were least motivated learners.

A number of key barriers were the major hindrances for the professional development of teachers. For instance, there was no collaboration among all the stakeholders for improving professional development of teachers in Pakistan. There was a gap between policy and implementation phases National Professional Standards of Teachers was published in 2009 that emphasized on the professional development of teachers. However, no in-service training program was organized in this endeavor. Although Higher Education Commission (HEC) initiatives for capacity building at tertiary level, Departments of Education (Punjab and elsewhere) continued the traditional modes of training. The program directly organized by HEC carried such impact value. Therefore, there should be complete

harmony amongst all the stakeholders who intend to enhance the professional development of teachers in Pakistan.

The professional development of teachers refers to the teachers' development in academics. The teachers' development in the profession is increasingly required as it is vital for achieving maximum benefits and educational outcomes. Specifically speaking, it is a way to foster teaching quality, students' learning and getting fruitful outcomes in the classroom venue (Hardy, 2012). Professional development encompasses teachers' knowledge, skills and attitudes about systematic investigation, refining practice, collaborating with colleagues, reflecting upon pedagogy and participating in training, courses, workshops and conferences in order to potentiate the practice of teaching. In-service teachers need to improve professional competencies to effectively perform in the classroom. It is very essential to carry out an intensive research in the field of professional development of teachers. Therefore, to highlight the importance of professional development for teachers in Pakistan, this systematic investigation was conducted.

The study formed the objectives to address teachers' professional development. One research hypothesis and four major research questions were formulated to achieve the objectives of the study. The sample of study was 586 elementary school teachers (ESTs), 285 head teachers (HTs) of elementary schools and 09 master-trainers. These participants were selected through simple random sampling techniques. The total sample consisted of 880 participants. A set of questionnaires (Appendix A & B) and an interview (Appendix C) were developed to collect quantitative and qualitative data. The researcher personally

collected the data from teachers and head teachers and conducted the interviews from nine master-trainers. Quantitative data were tabulated and analyzed through utilizing the SPSS software version 16; whereas qualitative data were transcribed in text form. Percentages, means and chi-square statistical techniques were employed for quantitative analysis. The qualitative data were analyzed through breaking it into themes, categories and codes. Both sets of data were mixed as it was a mixed methods investigation.

Familiarity with systematic inquiry (Craig, 2009; Kennedy, 1999) is the most vital element for the teachers' professional development (Grossman & McDonald, 2008) to solve the problems and produce new knowledge in the field of teaching and education (Velzen, 2013). A mixed-methods research in China for the group of primary school teachers was conducted. The findings of the study revealed that the majority of the teachers utilized the experimental type of research for particular teaching method in order to improve teaching and students' learning in the classroom. For the purpose of sharing research findings, they did not take benefits of publishing in different journals but utilized other means of research dissemination (Gao, Barkhuizen & Chow, 2011). The current study concluded that the teachers possessed inadequate knowledge of educational research for their professional development and conducting action research in local conditions. Furthermore, National Professional Standards for Teachers in Pakistan highlighted (Appendix D) that teachers should have the knowledge of educational research. However, this aspect of teachers' development was extensively neglected either by design and ignorance.

For the improvement of teaching and learning process, the teachers have to refine their practice of teaching keeping in mind the overall needs of the students. To refine the practice of teaching, teachers must plan the lessons, manage classroom layout and environment, assess students learning and provide feedback, keeping in view the overall needs of the students. They have to integrate the information and communication technologies (ICTs) with the pedagogy for the learners' needs and interests. It was found out that the elementary school teachers valued such practices in the classroom setting. However, they did not use the ICTs in their classroom pedagogical practices. This finding harmonizes with the Mwalongo (2011) that the teachers did not use ICTs to change their teaching practices. However, there are a number of problems in using the ICTs in the classroom, such as the teachers may not know the uses and benefits of the ICTs. It was regarded as the quality of the training programs. In the context of Punjab, ICTs have all the more become necessary as the government's initiatives of writing interactive e-textbooks in science and math from classes $6^{th}$ to $10^{th}$ have become a reality.

Collaborating with other teaching colleagues forms significant value of professional development of the teachers. It is a value of sharing knowledge, teaching skills, pedagogical methods and online techniques of assessment and solving problems with the help of experts, mentors, veteran teachers, educationists and professional of inter-discipline/profession and intra-discipline/professional at schools and other places rather than only in a school. The conclusion of the study displayed that the disposition of collaborating with other teaching colleagues was not developed through in-service training for the professional development of

teachers. Collaboration with other teaching colleagues is not fully developed in the public sector schools. There are number of problems and limitations regarding collaborative work such as no formal training, time and working conditions exist (Forte & Flores, 2014). There is also a misbelief among teachers that interacting with colleagues does not foster learning and it yields limited accomplishment in teachers' development (Tam, 2014). Another constraint of collaborating with other among teachers is that their daily routine confines them to their school sites (Gatt & Costa, 2009). Therefore, for the proper adaptation of collaborative activities with teachers and professional in the schools and other locations, it must be well designed, communicated and learned.

Overall, the findings suggested that one way forward would be asking each teacher to prepare an up-to-date own portfolios and include materials from their own lessons such as lesson plans, videos, feedback, essentially from students. This could stimulate the development, increase the use of ICT and lead to developing open educational resources (OERs) to share with other schools. Organizational exhibitions and award of prizes and other incentives for best teachers' portfolio would stimulate the teaching community.

Whereas some training sessions and seminars, by and large, are one-way communication, such portfolio exhibition are not only two-way communication and concrete models but also serve as multiple purposes for large population by publication in scholarly journals. Thus, the teachers themselves would be providing the 'training' materials to the teaching community and would not be then dissatisfied with materials from the trainers. Also, the trainers could develop their own portfolio training materials to model such collaboration.

Moreover, teachers' professional skill of reflecting upon teaching practice is deemed very effective for improving the performance in the classroom setting. Reflecting upon teaching is an analytical self-assessment approach of drawing drawbacks for enhancing work-place potential. When teachers critically analyze their practice in the classroom, in reality, they intend to develop their ability for effective learning of the students. As argued by Russell (2005) that reflective practice could and should be taught to teachers for more productive teaching. The conclusion of the study mentioned that in-service training for professional development of teachers did not engage them in activities of reflecting upon teaching practice for effective performance in the classroom. This finding about teachers' reflective practice is consonant with Tok & Dolapcioglu. (2013) that teachers fail to implement the reflective practices in oral and written form, identify the classroom emerging problems and keeping a daily journal to perceive their own professional development and pinpoint deficiencies. Thus, the reflective practice is not sidestepping skill for teachers and it should be designed according to the local needs of the teachers for their professional effectiveness in the classroom.

Teachers' professional efficiency in the classroom is also enhanced by providing opportunities of participating in the professional development programs such as courses, training, workshops, seminars and conferences. It was concluded that the teachers seldom took part in the courses, workshops, seminars and educational conferences arranged by the public and private professional educational organizations in order to improve their classroom practices. The finding of this study collaborated with the survey data conducted in America and

elsewhere that teachers were less likely to take part in the formal educational courses and observational visits to other schools (Goldstein, 2012). Thus, there should be some motivational factors for the teachers that arouse them to take part in the professional programs for their teaching's improvements. These can be built up when such serious exercises are incentive-built, career-linked, managerial-tailored and professionally-incumbent.

With regard to generalizability, the empirical data of present study is drawn from three districts. The position of Punjab, in typological context, is similar, as three districts represent the culture of Punjab, as a whole. This is, however, based on sound ground that DSD monitors the training of the total Punjab. Hence, overall situation in all the Punjab schools is almost the same. This could be true in Pakistan, as a whole, as all the four provinces shared national curriculum and textbook development for implantation all over the country until the 18th amendment (2012) of the constitution of Pakistan. Further, 18th amendment (2012) has guaranteed the mechanism of quality assurance all over the country.

## 5.4 Conclusions

Findings of the investigation yielded generation of the following conclusions:

1. To assess the teachers' knowledge about the educational research, it was figured out that the teachers did not have the knowledge of educational research for their professional development (finding 1). The first objective was to assess the effectiveness of in-service training in developing the

teachers' knowledge of educational research for professional development. Therefore, it was concluded that in-service training were ineffective by design and practice for developing teachers' knowledge and understanding about educational research for professional development.

2. To explore teachers' values about refining and collaborating practices, it was figured out that the teachers valued the lesson planning, classroom management and environment, assessment practice and provided feedback keeping in view the overall needs of the learners. However, they did not have value of using Information Communication Technologies (ICTs) viewing the overall needs of the learners. Furthermore, it was concluded that the teachers had inhibited dispositions to collaborate with other teaching colleagues at schools, they did not value to collaborate with their counterparts of other schools. Also, they lacked inhibition and training to work together with the colleagues at other places, except their own schools. They did not also value of working with the experts and they did not value of working under the supervision of experienced teachers as well (findings 2, 3, 4, 5, 6, 7, 8, 9, 10, & 11). The second objective was to explore the effectiveness of in-service training in developing teachers' values of refining teaching and collaborating with the colleagues for the improvement of practices. Therefore, it was concluded that the in-service training was effective for developing values of refining teaching practice; however, it was ineffective for developing values of collaborating with other teaching colleagues for the improvement of the practices. Keeping in view the research findings about developing the skills of reflective and collaborative practices, it was figured out that the teachers liked to write

professional diaries critically analyze their teaching, but they did not write research articles, nor they read research articles. They only observed each other's practice in the classroom setting. However, they did not video tape their practice of teaching in the classroom, they did not organize their teaching portfolios, more importantly, and they did not have knowledge of National Professional Standards of Teachers in order to potentiate their pedagogical knowledge, values, and skills for building their professional career.

3. Furthermore, it was also figured out that the teachers did not take part in courses, they participated in training, they did not participate in workshops, they did not take part in educational seminars and they did not get involved in the educational conferences managed by professional educational organizations in order to improve their classroom practices (findings 12, 13, 14, 15, 16, 17, 18, 18, 19, 20, 21, 22, & 23). The third objective was to investigate the effectiveness of in-service training in developing skills of reflecting on teaching and engaging in professional programs for learning and practices in the classroom. Therefore, it was concluded that in-service training was ineffective for developing the skills of reflecting on teaching practices and engaging in professional programs for their professional learning.
4. To analyze the teachers' opinions about the professional development programs and projects, it was found out that the teachers were dissatisfied with the training material and content, the trainers' flow of information, demonstration and explanation of training material and content, the overall quality of training program, the physical facilities in training and the

training of professional development to perform practices effectively (findings 24, 25, 26, 27 & 28). The fourth objective was to analyze the opinions of the teachers on the professional development through the in-service training. It was thus concluded that the teachers were dissatisfied with the in-service training for the professional development of the teachers.

## 5.5 Recommendations

Professional development of teachers in Pakistan is the most neglected area. On the basis of the conclusions, some useful recommendations are made for the improvement of professional development of the teachers as follow:

1. It is suggested that the National Professional Standards for Teachers may be an integral part of in-service training and may be refreshed at subsequent professional development level.

2. Some powerful and well-structured training programs for building up teachers' knowledge regarding educational research, article reading and writing may be designed and managed in the schools in order to improve their practice of teaching. To promote inquiry culture, the school management may arrange some school journals so that the teachers may identify teaching problems and share solutions through perusal activities. This may be developed through operational research and series of on-site courses in action research. They may be professionally designed and offered. The professional organizations like DSD and PITE etc. may need to work in this endeavor.

3. Effective collaborative practices may be designed for the teachers to foster the culture of sharing knowledge and solving problems of teaching with the help of other colleagues. In this respect, some crucial barriers that hinder collaboration among teachers may be removed. Policy makers and management of schools may initiate and schedule collaborative practices. The cluster schools and training units (district based training centers) may have to take on the ground initiatives.

4. The practice of utilizing the information and communication technologies (ICTs) in the classroom may be a compulsory training component for the elementary school teachers. Well-designed ICTs relevant training programs may be launched to enhance the teachers' potentials and skills. For this purpose, there may be a policy at the national/provincial level to harness the potential of Open Education Resource (OERs) for teachers' development. Furthermore, the UNSECO has developed the Competency Framework for Teachers (CFT) and the Commonwealth of Learning has developed a Commonwealth Certificate on ICT integration for teachers. These are free resources available on the internet and may be used for the teachers' development. DSD and PITE in Punjab may undertake this project.

5. Reflective practice is the main skill for teachers in the schools to critically analyze teaching. There are many techniques and activities that provide the teachers to reflect upon their pedagogical exercise to improve teaching. Some effective training programs may be conducted that stimulate activities for in-service teachers to reflect upon their teaching. In this

perspective, training colleges/IERs need to develop and enrich microteaching package and similar innovations, as a part of pre-service training. DSD may prepare the case studies and powerful examples and models for wider dissemination.

6. The wide-range professional learning programs such as courses, workshops, seminars and educational conferences may be managed by the professional educational organization at the schools. Additionally, the teachers may be provided incentives and rewards for participation in the programs of professional development. These may be linked to service career by demonstrating teaching portfolios. Some training sessions and seminars are one-way communication, whereas portfolio exhibition can be two-way with comments and discussion from other teachers.

7. Professionally designed courses and their powerful delivery need to be the basis of seeking professional commitment of the trainees. Also, trainees on their part are required to develop their thematic portfolios as productivity of the program. Furthermore, performance of the course participants may be strongly linked with a set of incentives, awards, accolades, and professional placement and more importantly with career plans.

## Recommendations for Further Researches

Some practical and useful researches may be carried out through experimental research design by training the teachers regarding professional development and its effects on scholastic achievement of students. Additionally,

there may be more research into how mobile phones can help teachers' connect/ collaborate with each other and how they can share their best practices.

It may be concluded that professional development is not a single institutional undertaking. From policy formulation to implementation at the national/provincial level, DSD, PITEs, IERs/University of Education, Colleges of Education and School Directorates need to evolve a unified strategy in line with National Standards for teachers' continuous professional development and code of conduct. A high level conference may be organized to address the diversified issues for the formulation of operational plan. National and international organizations can play a vital role to materialize this endeavor.

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**APPENDIX "A"**

## QUESTIONNAIRE FOR TEACHERS

**Part (I)**

(Statistical Characteristics Evidence of Teachers)

Where is your school located? ☐ Rural School ☐ Urban School

Which is your gender? ☐ Female ☐ Male

Which is your maximum academic qualification?

☐ F.A./F.Sc. ☐ B.A./B.Sc. ☐ M.A./M.Sc.

Which is your maximum professional qualification?

☐ C.T. ☐ B.Ed./B.S.Ed. ☐ M.Ed./B.S.Ed.

For how many average years have you been teaching at school?

☐ 00 – 10 ☐ 11-20 ☐ 21-30 ☐ 31-40

How many training have you received during 2009-2012? Please tick relevant box.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Above 10 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

**Part (II)**

Knowledge of Educational Research

1. Would you like to write the names of educational research approaches which are effective for professional development of teachers?

i. .....

ii. .....

2. Would you like to write the names of educational research techniques which are effective means for professional development of teachers?

i. .....

ii. .....

iii. .....

3. Would you like to write the names of other methods of inquiry which are effective means for professional development of teachers?

.....

4. Would you like to write the name of the most effective type of research which solves educational problems at classroom level for professional practice of teachers?

.....

5. Write the titles of researches that have been carried out/participated in by you at your school/classroom as a means for professional development of teachers.

i. .....

ii. .....

6. Write the names of some educational research journals which are effective means for professional development of teachers.

i. .....

ii. .....

7. Would you like to write the name of articles which are researched by you and published in any journal of educational inquiry?

i. .....

ii. .....

**Part (III):**

Please tick the relevant boxes only.

SA (5) = Strongly Agree; A (4) =Agree; UD (3) = Undecided; DA (2) =Disagree; &

SD (1) =Strongly Disagree.

| Sr. No | Statement | SA | A | UD | DA | SD |
|---|---|---|---|---|---|---|
| **Dispositions in refining practice of teaching and working together with colleagues** | | | | | | |
| **8.** | You refine your skill of lesson planning keeping in mind the overall needs of students. | | | | | |
| **9.** | You refine your classroom environment keeping in mind the overall needs of students. | | | | | |
| **10.** | You refine your skill of assessment keeping in mind the overall needs of students. | | | | | |
| **11.** | You refine your feedback skills keeping in mind the overall needs of students. | | | | | |
| **12.** | You refine your ICTs skills keeping in mind the overall needs of students. | | | | | |
| **13.** | You work together with your professional teaching colleagues at your own school. | | | | | |
| **14.** | You work together with your professional teaching colleagues at other schools. | | | | | |
| **15.** | You work together with your professional teaching colleagues at other place except schools. | | | | | |
| **16.** | You work together with professionals of other disciplines/professions. | | | | | |
| **17.** | You participate in mentoring program to work together with your professional teaching colleagues. | | | | | |
| **Skills of reflecting over practice of teaching and participating in professional development programs** | | | | | | |
| **18.** | Your write your own professional diary to critically analyze your teaching practices. | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **19.** | You write research articles to critically analyze your teaching practices. | | | | | |
| **20.** | You read research articles to critically analyze your teaching practices. | | | | | |
| **21.** | You utilize peer observation to critically analyze your teaching practices. | | | | | |
| **22.** | You video-tape your teaching practices to critically analyze teaching. | | | | | |
| **23.** | You develop your professional portfolio to critically analyze your teaching practices. | | | | | |
| **24.** | You are familiar with the National Professional Standards in teaching for your professional development plan. | | | | | |
| **25.** | You participate in courses to enhance your skills of teaching for effective performance in the classroom. | | | | | |
| **26.** | You participate in training to enhance your skills of teaching for effective performance in the classroom. | | | | | |
| **27.** | You participate in workshops to enhance your skills of teaching for effective performance in the classroom. | | | | | |
| **28.** | You participate in seminars to enhance your skills of teaching for effective performance in the classroom. | | | | | |
| **29.** | You participate in conferences to enhance your skills of teaching for effective performance in the classroom. | | | | | |
| **Opinions about professional development program** | | | | | | |
| **30.** | The training material and content were effective for professional development. | | | | | |
| **31.** | The trainers' presentation and explanation of training material were engaging and perfect for professional development. | | | | | |
| **32.** | You are satisfied with the quality of training for professional development. | | | | | |
| **33.** | You are satisfied with the physical facilities such as classroom, furniture and learning environment etc. | | | | | |
| **34.** | You are satisfied with training about professional development to perform your teaching practice more effectively. | | | | | |

**APPENDIX "B"**

## QUESTIONNAIRE FOR HEAD TEACHERS

(Statistical Characteristics Evidence of Head Teachers)

Where is your school located? ☐ Rural School ☐ Urban School

Which is your gender? ☐ Female ☐ Male

Which is your maximum academic qualification?

☐ B.A./B.Sc. ☐ M.A./M.Sc.

Which is your maximum professional qualification?

☐ B.Ed./B.S.Ed. ☐ M.Ed./B.S.Ed.

What is your experience as a head teacher?

☐ 00 – 10 ☐ 11-20 ☐ 21-30 ☐ 31-40

Please tick the relevant boxes only.

SA (5) = Strongly Agree; A (4) =Agree; UD (3) = Undecided; DA (2) =Disagree; & SD (1) =Strongly Disagree.

| Sr. No | Statement | SA | A | UD | DA | SD |
|---|---|---|---|---|---|---|
| **Dispositions in refining practice of teaching and work together with colleagues** | | | | | | |
| **1.** | Teachers refine their skill of lesson planning keeping in mind the overall needs of students. | | | | | |
| **2.** | Teachers refine their classroom environment keeping in mind the overall needs of students. | | | | | |
| **3.** | Teachers refine their skill of assessment keeping in mind the overall needs of students. | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 4. | Teachers refine their feedback skills keeping in mind the overall needs of students. | | | | | |
| 5. | Teachers refine their ICTs skills keeping in mind the overall needs of students. | | | | | |
| 6. | Teachers work together with their professional teaching colleagues at their own school. | | | | | |
| 7. | Teachers work together with their professional teaching colleagues at other schools. | | | | | |
| 8. | Teachers work together with their professional teaching colleagues at other place except schools. | | | | | |
| 9. | Teachers work together with professionals of other disciplines/professions. | | | | | |
| 10. | Teachers participate in mentoring program to work together with your professional teaching colleagues. | | | | | |
| **Skills of reflecting over practice of teaching and participating in professional development programs** | | | | | | |
| 11. | Teachers write their own professional diary to critically analyze teaching practices. | | | | | |
| 12. | Teachers write research articles to critically analyze teaching practices. | | | | | |
| 13. | Teachers read research articles to critically analyze teaching practices. | | | | | |
| 14. | Teachers utilize peer observation to critically analyze teaching practices. | | | | | |
| 15. | Teachers video-tape their teaching practices to critically analyze teaching. | | | | | |
| 16. | Teachers develop their professional portfolio to critically analyze teaching practices. | | | | | |
| 17. | Teachers are familiar with the National Professional Standards in teaching for professional development. | | | | | |
| 18. | Teachers participate in courses to enhance their skills of teaching for effective performance in the classroom. | | | | | |
| 19. | Teachers participate in training to enhance their skills of teaching for effective performance in the classroom. | | | | | |

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|---|---|---|---|---|---|---|
| **20.** | Teachers participate in workshops to enhance their skills of teaching for effective performance in the classroom. | | | | | |
| **21.** | Teachers participate in seminars to enhance their skills of teaching for effective performance in the classroom. | | | | | |
| **22.** | Teachers participate in conferences to enhance their skills of teaching for effective performance in the classroom. | | | | | |

**APPENDIX "C"**

## SEMI-STRUCTURED INTERVIEW OF MASTER TRAINER

**Time: ----------** **Date:----------**

**Introduction & Background information**

Respected sir! I am very thankful to you for providing me your precious time for this interview. I am Muhammad Arshad Tariq PhD research scholar. I am conducting research titled "Effectiveness of in-Service Training of Elementary School Teachers for Professional Development". In this respect, you will be interviewed in this formal session. Your interview is very valuable for this research. This interview will take ---- minutes. There are three leading and some probing questions about the training of elementary school teachers who are working in middle schools. Please keep in mind the training that you have carried out during the session 2009-2012, while answering my questions.

Respondent Name:---------- Gender:----------

Academic & professional qualification:----------Experience:----------

How many training session did you provide to in-service teachers during 2009-2012:----------

**Leading Question No. 1.**

Which type of knowledge and comprehension did you provide for elementary school teachers during in-service training for their professional development?

**Probing Questions**

a. Which methods and techniques did you provide for teachers to develop them professionally and solve their professional problems?

b. Which type of knowledge did you transfer to teachers during in-service training for developing and updating the professional portfolio?

**Leading Question No. 2.**

Which dispositions did you develop in teachers during training regarding their professional development?

**Probing Questions**

a. List the dispositions that you provided to teachers for refining their skills keeping in mind the over-all needs of students and school/ community?

**b.** Would you like to describe the most effective activities and values of working together with other teachers at school?

**Leading Question No. 3.**

How did you engage teachers in activities during training for effective performance in the classroom?

**Probing Questions**

a. Which activities did you engage teachers in to analyze teaching critically?

b. Which activities did you engage teachers in regarding professional standards?

c. Which programs did you engage teachers in to make them learn through professional educational organization?

APPENDIX "D"

# Standard-9: Continuous Professional Development and Code of Conduct

*Teachers participate as active, responsible members of the professional community, engage in reflective practices, pursuing opportunities to grow professionally and establish collegial relationship to enhance the teaching and learning process. They subscribe to a professional code of conduct.*

## 9-A KNOWLEDGE AND UNDERSTANDING

*Teachers know and understand:*

- The demands of a professional code of conduct.
- How educational and other methods of inquiry can be used as a mean for continuous learning, self-assessment and development.
- How to be inventive and innovative about teaching practice.
- How to develop and maintain a personal professional portfolio.

## 9-B DISPOSITIONS

*Teachers' value which they are committed to:*

- Refining practices that address the needs of all students and the school/community.
- Professional reflection, assessment and learning as an ongoing process.
- Collaborate with colleagues.
- Share successful professional experiences with others.
- Demonstrate professional ethics.

## 9-C PERFORMANCE AND SKILLS

*Teachers engage in activities to:*

- Use reflective practice and the professional development standards to set goals for their professional development plans.
- Learn through professional educational organizations.
- Make the entire school a productive learning climate through participation in collegial activities.
- Seek advice of others and draw on action research to improve teaching practice.
- Uphold ethical behaviors in teaching, learning and assessment.



Source: Government of Pakistan. (2009). *National Professional Standards for Teachers in Pakistan.* Islamabad: Policy and Planning Wing Ministry of Education.