EVALUATION OF PROFESSIONAL DEVELOPMENT OF NOVICE TEACHERS IN THE CONTEXT OF TRANSFORMATIVE LEARNING IN PUNJAB

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Dedicated

to

my parents

& my all teachers

who educated me and inspired me always

& my loving stars Hassan, Hussain & Zulqarnain who

Suffered a lot during my study

CERTIFICATE

It is certified that Mr.Muhammad Azhar Reg # 77-FSS/PHDEDU/F11 has completed his thesis titled "Evaluation of Professional Development of Novice Teachers in the Context of Transformative Learning in Punjab" under my supervision. His thesis is ready for evaluation. The thesis is, therefore, forwarded for further necessary action.

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Evaluation of Professional Development of Novice Teachers in the Context of Transformative Learning in Punjab

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ABSTRACT

Professional development is a continuous and lifelong process of enhancing human performance. The study was conducted to evaluate the professional development of novice teachers in the context of Transformative Learning in Punjab. The study focused on investigating professional development of novice teachers in the areas of teaching methodology, classroom practices and lesson planning skills in the context of Transformative Learning. Another objective of the study was to evaluate the professional development modules for novice teachers according to the views of module developers and to compare the professional development of novice teachers with respect to their designation, academic and professional qualifications. Mixed method approach and sequential exploratory research design was used for this study. In qualitative phase of the study, interviews of master trainers and module developers of professional development program were conducted to elicit their views about professional development. In the quantitative phase, data was collected from novice teachers through structured questionnaire to gain information about transformation, if any, in the areas of lesson planning, teaching methodology and classroom practices. Observations were made to find out transformations among novice teachers as manifested in classrooms. The targeted population of this study comprised of 78,092 Novice Educators, 176 master trainers and 20 module developer of the professional development program. Through multi stage sampling technique, 1,036 trained teachers from eight selected districts of Punjab province, 10 module developers and 35 master trainers were selected as sample. Research instruments comprised two structured interview schedules for master trainers and module developers and a questionnaire and an observation check list for novice teachers. The responses of master trainers and module developers were analyzed qualitatively in light of the objectives. Data obtained through checklist and questionnaire was analyzed through one way ANOVA and independent sample *t*-test. It was found that a positive change occurred in lesson planning skills, teaching methodology and classroom practices of novice teachers. Module developers provided activities for Transformative Learning. It was concluded that there was no significant difference in the mean scores of novice teachers regarding professional development in the areas of lesson planning skills with respect to their designation and professional qualification. It was also concluded that there was no significant difference in the mean scores of novice teachers regarding professional development in the area of teaching methodology with respect to their designation and academic qualification. Novice Elementary School Educators and bachelor degree holder teachers were performing better in the area of classroom practices. Bachelor degree holder novice teacher were also performing better than master degree holders in the area of lesson planning .The study recommends launching lesson planning improving program for existing teachers. It is recommended for School Education Department to introduce latest classroom practices to other tiers of teachers. It is recommended for Directorate of Staff Development/Quaid-e-Azam Academy for Educational Development to work on transformation of traditional teaching methodologies to innovative teaching methodologies for all other teachers at all educational levels.

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List of Abbreviations

AEPAM	Academy of Educational Planning & Management
AFAQ	Association for academic quality
Anal	Analysis
ANOVA	Analysis of variance
B. Ed.	Bachelor of Education
CEEC	Committee for European Economic Cooperation
CIDA	Canadian International Development Agency
DSD	Directorate of Staff Development
ECE	Early Childhood Education
ESE	Elementary School Educator
GIZ	Gesselschaft International Zusammenarbeit
Govt.	Government
JICA	Japan International Cooperative Agency
KP	Khyber Pakhtunkha
MDGs	Millennium Development Goals
M. Ed.	Master of Education
M. Phil	Master of Philosophy

MT	Master Trainer
NISTE	National Institute of Science & Technical Education
OECD	Organization for Economic Cooperation and Development
OEEC	Organization for European Economic Cooperation
PITE	Provincial Institute of Teacher Education
QAED	Quaid-e-Azam Academy for Educational Development
Qual	Qualitative
Quan	Quantitative
RITE	Regional Institute of Teacher Education
SDGs	Sustainable Development Goals
SESE	Senior Elementary School Educator
SOLO	Structure of Observed Learning Outcomes
SLO	Student Learning Outcome
SSE	Secondary School Educator
TESSA	Teacher Education in Sub-Saharan Africa
TLT	Transformative Learning Theory
TPDS	Total Professional Development Scores

UNESCO	United Nation Educational Scientific & Cultural Organization
USAID	United States Agency for International Development

CHAPTER 1

INTRODUCTION

Education is the basic right of every citizen of Pakistan. It is necessary for federal and provincial governments to promote literacy, wipe ignorance and enhance the capacity of human resources and educational institutes. In the constitution of Pakistan, it is mandatory for Government of Pakistan to provide free and compulsory education to children aged 5-16 years. After the 18th amendment in the constitution of Pakistan, it is the responsibility of the provincial governments to disseminate education. Federal and provincial governments are responsible to achieve the targets of Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs). National Education Policy 2009 suggests strategies for promoting literacy, building education related infrastructure and enhancing the capacity of educational managers and teachers (Mehnaz, 2014).

Little investment on education, low literacy rate, poor quality of education, war on terror and modest capacity of teachers are the main issues of education in Pakistan, and Punjab is no exception. These issues hinder the quality of education in Pakistan, especially in province Punjab. Hence there is a dire need to meet these challenges. Government of Punjab is providing human resources and infrastructure in this regard. Government of Punjab is also working on capacity building of educational personnel and production of quality teachers. Provincial progress for the year 2013-14 shows that the net primary enrollment in province Punjab is 64% which is the highest in Pakistan (Govt. of Pakistan, 2015).

Teachers are considered as backbone of an education system. Effective teaching depends on many factors, among which teachers' knowledge of the subject matter, teaching skills and their professional development are the leading ones. The most important in this regard is teachers' professional development. Teaching skills required for effective classroom management can be enhanced through different programs. Student's higher achievements are possible only through teachers' pre-service trainings (Silberman, 2006).

The knowledge of the subject matter is helpful for effective teaching but pedagogy is more important. A teacher can apply different strategies effectively for promoting learning among students through motivation. Only a dynamic teacher can teach dynamically. Teacher's fame lies in his quality of teaching. S/he is not merely required to transfer his/her knowledge to his/her pupils and to add literacy rate. His/her responsibility is more than that. Continuous efforts have been made to improve teaching learning processes. Hence, many researchers are attracted towards it because it is a vast area of study. This has included both pre-service and in-service professional teaching (Rao, 2007).

Professional development enhances the performance of every worker. One can have a lot of knowledge about one's field but may lack in performing effectively. Regarding this, it is the professional development which equips the workers with essential skills for better outcomes (Silberman, 2006). It is a process that continues throughout life and teachers keep on learning with every new experience (Cowley, 2006).

Educational technology is the pursuit of knowing how people learn and discover the best method to teach the learner. Educational technology is know-how of technological innovations. In 2007, United States Agency for International Development (USAID) assisted 30,000 primary school teachers by providing them training in educational technology (www.usaid.gov/news).

There is a large potential in using information and communication technology for promotion of education and teacher training. The Organization for Economic Cooperation and Development (OECD) library and archives collection dates back to 1947. It includes records from the Committee for European Economic Cooperation (CEEC) and Organization for European Economic Cooperation (OEEC) predecessors of today's OECD. The OECD provides a forum in which governments can work together to share experiences and seek solutions to common problems like use of technology in education (www.oecd.org).

United Nations Educational Scientific & Cultural Organization (UNESCO) has successfully used mobile phones in Pakistan for promotion of literacy. UNESCO used mobile phones as a tool for professional development of early childhood education (ECE) teachers. ECE teachers reported pedagogic changes in the area of active participation of students (UNESCO, 2010).

Through the continuous professional development, teachers move from induction phase to continuous development phase. This requires certain facilitating elements. Self-reliance and problem-solving skills can help the teachers independent of mentor assistance (Barbra & Brock, 2006). This transmission is not possible in some passive ways. It requires essential reflection and collaboration at different

levels. Here, the teacher has to perform different functions like communicating, mobilizing, motivating and coordinating (Rao, 2007). His/her role becomes multidimensional. Thus training must aim at improving the functional aspects of teachers. Teacher educators should actively focus on enhancing capacities of the trainee teachers.

Transformative Learning and its procedure of occurrence has been explained by Transformative Learning Theory (TLT). Transformative means a non-reversible shift towards greater inclusiveness and permeability. It must carry flexibility, autonomy, discrimination and openness. The theory explained that through a certain developmental process, the views of individuals, groups or organizations are changed. A person's basic belief or assumption about any work is his meaning perspective. Thus, Transformative theory deals with changing a qualified individual to a skilled worker (Mezirow, 2000).

There are certain keys to bringing about Transformative Learning. Mezirow (1978) highlights disorienting dilemmas, critical reflection and relational discourse. To him, the application of one or all of these elements may lead to Transformative Learning. It can occur in many ways i.e. through a wholly learning process or step wise or even disjointed manner. This makes the path to Transformative Learning experience fluid and recursive (Taylor, 2000).

Professional development opportunities also facilitate the perspective transformation (King, 2002). The use of Transformative Learning in educational setting carries higher education as its example (Barlas, 2000; Cohen & Piper, 2000; Glisczinski, 2005; Taylor, 2000). It also includes cooperate human resources

development (Yorks & Marsick, 2000), academic committees (Kasl & Elias, 2000), community education (Silverman, 2004; Waithe, 2005) and professional development for teachers (Dumochel, 2004; Griswold, 2007; King, 2002; Saavedra, 1995; Smith, 1999). These researches have peeped into how Transformative Learning can be facilitated among specific types of students in specific educational conditions.

Education Extension Center was established in Lahore in 1959. It was renamed as Directorate of Staff Development (DSD), Punjab in 1994. In 2002, it became the part of the University of Education. Realizing its importance, the Government of Punjab made it an independent institution in 2004. Importance of all the existing teacher training colleges was recognized and the role of this directorate was defined along with its restrictions. Later on, it was declared as a sole agency for coordinating activities related to the professional development of teachers in the public sector (Govt. of Punjab, 2009). In 2017, DSD was restructured as Qauid-e-Azam Academy for Educational Development (QAED) Punjab.

The Directorate of Staff Development kept on working with a vision of developing such a cadre of teachers which would be highly knowledgeable, full of commitment, motivated and ethically sound. The aim was to promote quality education in the public schools of Punjab and produce individuals for better social and economic setup (Govt. of Punjab, 2009).

Induction for professional development was made mandatory for novice teachers in Punjab on the recommendations of Teacher Education Task Force Punjab in 2009. This led the Directorate of Staff Development to organize a four week program for professional development of 78,092 teachers recruited during the years

2010, 2011 and 2012 in Punjab Education Department. These teachers were recruited as Elementary School Educators (ESE), Senior Elementary School Educators (SESE) and Secondary School Educators (SSE), (Govt. of Punjab, 2012). Training modules were specially developed for the professional development of novice teachers keeping in view the needs, demands and challenges in school education.

1.1 Rationale of the study

Professional development is a key factor in quality education. Basic purpose of staff development program is to enhance the capacity of teachers. Directorate of Staff Development through its professional development program is trying to enhance pedagogical skills of novice teachers. Directorate of Staff Development Punjab organized a professional development program for Elementary School Educators, Senior Elementary School Educators and Secondary School Educators those were recruited in last three years (2010, 2011and 2012) in Punjab (Govt. of Punjab, 2012).

Training was based through certain modules. These modules consisted of lesson planning, classroom practices, teaching methodologies, conceptual teaching, activities, educational technology, service related rules and government initiatives. These modules were used for different activities related to professional development of novice teachers by master trainers .Master trainers used these modules as training material for delivery of lectures, presentations, activities, role plays, group discussions, projects, production of learning material, research and assignments. During training, novice teachers had to prepare and present activity based lesson plans by using low cost material along with research work and assignments. Novice teachers were evaluated through observations, pre test, mid test and final test. Novice

teachers were passed through different activities practically which resulted in equipping them with pedagogical skills, classroom practices, lesson planning and educational technology. It also provided information about the initiatives taken by the government for introducing new trends in teaching learning process (Govt. of Punjab, 2009).

Usually, researches are made to analyze objectives, methodologies, utility and effectiveness of professional development programs. Through researches, usually, it is observed to what extent objectives were achieved. What innovations were introduced? What were the outcomes of professional development program? The above-mentioned professional development program of novice teachers was interesting and unique as the novice teachers were equipped with latest techniques of teaching for first time in the history of Punjab. Therefore, it was interesting for researcher to evaluate this professional development program.

The research undertaken was a unique examination of transformation experiences and their nature in the process of professional development. It was recognized that the educational process may lead to Transformative Learning and the nature of change could be examined. The research had synthesized the professional development and Transformational Learning to ground the task of studying the professional development of novice teachers in the context of Transformative Learning in Punjab.

1.2 Statement of the Problem

Professional development program launched by the Directorate of Staff Development was projected to enhance teaching techniques of novice teachers. To equip novice teachers with latest teaching techniques was not enough. Implementation phase of professional development program starts when teachers go in the field and perform practically. It was required to analyze what the practical situation in field was. Whether any transformation occurred among novice teachers or not? Whether this professional development program was useful for novice teachers or not? The major problem/challenge of the study was to analyze this professional development program when the trained teachers were practically performing in the schools. Previous studies focused on analyzing the theoretical aspects of professional development programs. Hence, there was a dire need to change the scenario of research from theoretical to practical aspect of education. So, this research was relevant as it aimed at evaluating the professional development of novice teachers in the context of Transformative Learning in Punjab.

1.3 Objectives of the Study

Following were the objectives of the study:

1. To investigate professional development of novice teachers in lesson planning skills in the context of Transformative Learning (disorienting dilemma, critical reflection, rational discourse).
2. To analyze professional development of novice teachers in classroom practices in the context of Transformative Learning (disorienting dilemma, critical reflection, rational discourse).

3. To investigate professional development of novice teachers in teaching methodologies in the context of Transformative Learning (disorienting dilemma, critical reflection, rational discourse).
4. To evaluate the professional development modules for novice teachers in the context of Transformative Learning (disorienting dilemma, critical reflection, rational discourse).
5. To compare the professional development of Elementary, Senior Elementary and Secondary School novice teachers in the context of Transformative Learning.
6. To compare the professional development of novice teachers with respect to their academic qualification in the context of Transformative Learning.
7. To compare the professional development of novice teachers with respect to their professional qualification in the context of Transformative Learning.

1.4 Hypotheses of the study

The hypotheses of the study were:

H_0 1: There is no significant difference in the mean scores of Elementary, Senior Elementary and Secondary School novice teachers regarding professional development of lesson planning skills in context of Transformative Learning.

H_0 2: There is no significant difference in the mean scores of Elementary, Senior Elementary and Secondary School novice teachers regarding professional development of classroom practices in context of Transformative Learning.

H_0 3: There is no significant difference in the mean scores of Elementary, Senior Elementary and Secondary School novice teachers regarding professional

development in the area of teaching methodology in context of Transformative Learning.

H_0 4: There is no significant difference in the mean scores of lesson planning skills in context of Transformative Learning with respect to academic qualification of novice teachers.

H_0 5: There is no significant difference in the mean scores of classroom practices in context of Transformative Learning with respect to academic qualification of novice teachers.

H_0 6: There is no significant difference in the mean scores of teaching methodology in context of Transformative Learning with respect to academic qualification of novice teachers.

H_0 7: There is no significant difference in the mean scores of lesson planning skills in context of Transformative Learning with respect to professional qualification of novice teachers.

H_0 8: There is no significant difference in the mean scores of classroom practices in context of Transformative Learning with respect to professional qualification of novice teachers.

H_0 9: There is no significant difference in the mean scores of teaching methodology in context of Transformative Learning with respect to professional qualification of novice teachers.

1.5 Research Questions

1 How much Transformative Learning occurred among novice teachers as a result of professional development program in the area of lesson planning skills?

2 To what extent Transformative Learning occurred among novice teachers as a result of professional development program in the area of classroom practices?

3 To what level Transformative Learning occurred among novice teachers as a result of professional development program in the area of teaching methodologies?

4 How professional development modules supported Transformative Learning among novice teachers?

1.6 Significance of the Study

1. The results of this study might be helpful for teachers to analyze transformation process within themselves during trainings and after attending trainings.
2. This study might be helpful for teacher educators to understand importance and application of transformation process in professional development.
3. The findings of this study might be helpful for training organizers to keep in view environment and steps of transformation process while designing teacher training programs.
4. This study might be helpful for researchers to conduct further research in this specific area.

1.7 Delimitations of the Study

1. This study was delimited to Elementary School Educators, Senior Elementary School Educators and Secondary School Educators who were recruited in last three years (2010, 2011 and 2012) and were imparted four-week induction training by Directorate of staff Development, Lahore Punjab.
2. This study was delimited to following areas of professional development of novice teachers:
    a. Teaching Methodology
    b. Classroom practices
    c. Lesson Planning

1.8 Methodology

Mixed method approach and sequential exploratory design was used for this study because this was an appropriate design to conduct such studies (Creswell, 2009). Kirkpatrick's Training Evaluation model was used to evaluate professional development of novice teachers. In the qualitative phase of study, interviews of master trainers and module developers of professional development program were conducted to explore their views about professional development of novice teachers in context of Transformational Learning. For the analysis of qualitative data collected through interview schedules, data were organized and coded, and emerging themes were interrelated and interpreted in the lights of objectives.

In the quantitative phase, quantitative data were collected from novice teachers through structured questionnaire to gain information about transformation in novice teachers in the areas of lesson planning, teaching methodology and classroom

practices. Observations were made to find out transformations among novice teachers manifesting in classrooms. Quantitative data was analyzed in the lights of objectives. Post positivist worldview was used for study of professional development of novice teachers in context of Transformative Learning in Punjab.

1.8.1 Population of study

The population of the study consisted of 78,092 School teachers, 176 Master trainers and 20 module developer (Govt. of Punjab, 2012).

1.8.2 Sample of the study

Multi stage sampling technique was used to select the sample. Hence, 1036 novice teachers (5 % of population), 35 master trainers (20% of population) and 10 module developer (50 % of population) were taken as sample. Moreover, 48 novice teachers were observed in their classrooms.

1.8.3 Research instruments

Research instruments comprised a questionnaire, two structured interview schedules and an observation checklist to evaluate the professional development of novice teachers in context of Transformative Learning. Questionnaire was based on 5 point intensity response scale for the novice teachers included in the sample of study. Structured interviews of master trainers and module developers were conducted by the researcher to further explore transformation within the novice teachers. Self designed interview schedules were used to get the opinion of master trainers and module developers. Observational checklist was used to find out transformation among novice teachers during classroom activities.

1.8.4 Data collection

Data was collected by the researcher himself through instruments mentioned above from the sample respondents. In the first phase, interviews of 10 module developers and 35 master trainers were conducted. Interviews were audio taped and then were transcribed on paper. Permission was sought from concerned authorities and respondents to collect the data. Questionnaires were circulated to 1036 novice teachers to get their responses regarding their professional development. Classroom teaching of 48 novice teachers were observed to evaluate professional development of novice teachers.

1.8.5 Data analysis

The information collected from master trainers and module developers through interviews were analyzed qualitatively. During analysis of qualitative data collected through interview schedules, data were organized, coding was made to categorize the data and emerging themes were interrelated and interpreted to evaluate professional development of novice teachers in context of Transformative Learning. The statistical technique one way ANOVA and an independent sample *t* test at significance level of 0.05 were used to analyze the quantitative data collected through questionnaire and observation checklist respectively for finding differences.

1.9 Operational Definitions

Following term will be frequently used in the study;

a. Transformation

Transformation refers to a non-reversible shift in a person's meaning perspective towards greater inclusiveness and flexibility (Mezirow, 2000).

b. Transformative Learning

Transformative Learning is the process of "perspective transformation", with three dimensions: changes in understanding of the self, revision of belief systems, changes in lifestyle (Mezirow, 2000).

c. Professional development

Professional development is the means by which people maintain their knowledge and skills related to their professional lives (Cranton, 1994).

d. Novice Teachers

Novice teacher is defined as a teacher with less than four years of teaching experience (Roth, 2006).

e. Classroom Practices

Classroom practices include how teachers interact with students in a group and one-on-one basis, the way the physical classroom is arranged, and maximum participation of learners is assured for achievement of learning outcomes (Garet et al, 2001).

1.10 Conceptual Framework

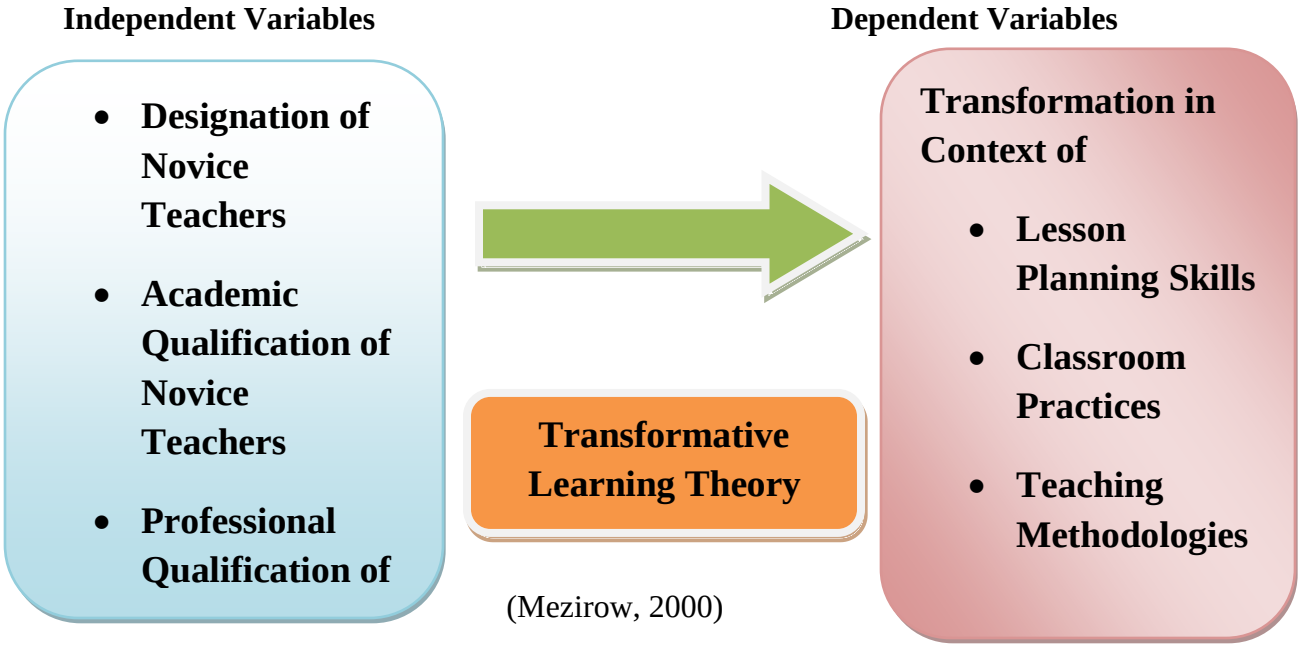

Figure 1.1. Conceptual framework

Figure 1.1 indicates conceptual framework of the study. It clearly specifies the independent and dependent variables of the study. The figure illustrates that the independent variables i.e. Designation, Academic Qualification and Professional Qualification of novice teachers may affect the dependent variables i.e. Lesson Planning Skills, Classroom Practices and Teaching Methodologies. Moreover, during analysis of the effect of independent variables on the dependent variables, TLT was also kept in mind. Hence, the conceptual framework of the study shows how the researcher conducted the study keeping in view the variables and objectives of the study (Mezirow, 2000).

1.11 Summary

Basic purpose of the staff development program is to enhance the capacity of teachers. Directorate of Staff Development, through its professional development

program, is trying to enhance pedagogical skills of the novice teachers. Directorate of Staff Development Punjab has organized a professional development program for teachers in Punjab. Research was aimed at evaluating the professional development of novice teachers in the context of Transformative Learning in Punjab.

Objectives of the study were to investigate professional development of novice teachers in the areas of pedagogical skills, classroom practices and lesson planning skills in the context of Transformative Learning ,to evaluate the professional development modules for novice teachers in context of Transformative Learning according to the views of module developers, to explore Transformative Learning among novice teachers manifesting in classrooms and to compare the professional development of novice teachers with respect to their designation, academic qualification and professional qualification.

In this chapter, the researcher introduced the study by outlining the research objectives, hypotheses, research questions and presenting brief detail of methodology. In the next chapter, detailed review of literature is given, providing historical development in area of professional development of novice teachers and existing trends relevant to professional development. Hence, chapter two elaborates the detailed theoretical framework of the study.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Teachers need specific and effective teaching skills to design, develop and execute classroom activities properly. Teacher preparation is helpful for effective teaching. Well trained teachers produce student's higher achievement through their dynamic teaching. In recent years more attention is given to improve classroom effectiveness. Qualitative teaching ensures qualitative effectiveness and efforts have been made to improve classroom teaching learning process.

Education aims at bringing about learning through organized and sustained teaching. The performance of schools and colleges has duly been affected by the external pressure which includes family, society and technological changes. It has been seen that pre-service and in-service trainings of teachers ensure professional development of teachers and their achievements in classrooms (Rao, 2007).

Research literature reveals that there are many factors which contribute in achieving educational targets. Among these factors, teacher's knowledge and skills are the most influencing (Fullan, Hills & Crevola, 2006). Teachers have to furnish creativity among learners through effective teaching, classroom practices and positive classroom environment.

Literature shows that teaching has become complex as more innovations are being added in the field of classroom practices. All these factors are leading towards enhancement of teacher's capacity for imparting instruction properly through professional development (Bransfold, Darling-Hammond & Lepage, 2005).

There is a great need to support teachers to face upcoming complicated and challenging demands of professionalism (Joyce & Showers, 2002). In professional development, formal and informal support is provided to teachers so that they may improve their teaching. In professional development, educators are provided support through natural teaching experiences and planned activities for bringing quality education among learners. It puts educators to review and renew their way of teaching and help them to play their role as change agents. It helps in enhancing the educator's knowledge, skills, professional teaching and emotional intelligence.

Different researchers relate professional development to one or more paradigms. Garmston (2002) related professional development to lack of skills and knowledge of teachers and wanted to improve it through professional development. Feiman-Nemser (2001) related professional development to learner's need and interest. Warren-Little (2001) related professional development to educational change and wanted to change in specific areas. Mclaughlin & Zarrow (2001) related professional development to problem solving in which issues are identified and the necessary improvements are made. Trainings are related to equipping the individuals with certain skills that lead to active learning.

2.1 Active Training

Active training takes place when the trainees are at work and do it extensively. Objective of training is to make the participants acquire knowledge and skills rather than merely receiving them. In this regard, various activities are designed to make the whole process valuable (Cowley, 2006). Quality has awlays been a fundamental demand in education.

2.1.1 Designing an active training program

In designing an active training program, variety of activities and participation is involved. While designing an active training program, moderate level of content is involved. There should be selective curriculum for promotion of active learning. There must be balance among cognitive, affective and behavioral learning. Training program must have variety of learning approaches and it should present opportunities for group participation. It should present real life problems and their solutions. It must be based on training need assessments and it augment the participants' expertise (Barbezette, 2014).

2.1.2 Developing active training objectives

Objectives are the pillars of any professional development program. Organizer of any training program would work hard while developing active training objectives. S/he would be clear about objectives of training. Objectives must cover affective, cognitive and behavioral learning. These objectives will help the organizer of training to challenge the lack of knowledge, lack of skill and lack of desire among participants. Objectives must be specific, measureable, achievable, reliable and testable (Brislin, 2015).

2.1.3 Using experiential learning approaches

Learning by doing is promoted by active training. Experiential learning promotes the understanding of concepts and it is the main gateway to skill enhancement. Whenever we desire to develop skill among participants, we must focus on doing rather than showing. Experiential learning is the most suitable for effective and behavioral learning. It allows participants to practice new skills and refine new procedures. Experiential learning approaches include role playing, games, simulations, observations, writing tasks and action learning (Kolb, 2013).

2.1.4 Designing active training activities

Organizer of a training program must have set objectives and variety of training methods. S/he must be clear about objectives, methods and format of training. S/he has to design activities and show how the task is going to be accomplished? What setting will be required to determine the design s/he wishes to introduce. While shaping a design, there are several considerations which will be taken into account. First of all, a teacher should see whether the proposed design will achieve the objectives of activities or not. There would be sufficient time to carry out activities. S/he should also consider pace of design and size of the group (Gupta, 2014).

2.1.5 Sequencing active training activities

An active training and training module is not a series of exercises. There must be a thoughtful program between different activities. Sequencing is particularly an art in which you organize different activities and pieces of activities. While sequencing of training sessions, one must build interest among participants. One should first

provide easy practices for learner and then demanding ones. One must maintain a good mixture of activities .One must group concepts and skills altogether on the basis of similarities and differences. Moreover, one has to provide sub skills before introducing complex ones. In addition, one should focus on implications of the course contents of professional developmental programs (Clark, 2016).

2.1.6 Integrating technology into active training

Utility of the training can be enhanced by electronic delivery. E-learning programs are faster, better and more efficient than traditional modes of trainings. As technology is advancing day by day, the trainees must have the knowhow of the technology. Use of technology in professional developmental program is referred to as e-learning. It has different manifestations i.e. independent e-learning, group based e-learning, virtual classrooms and blended learning (Pike, 2015).

2.1.7 Conducting active training programs

Successful delivery of training is a process that actually starts before the arrival of participants. Preparation is an important step of success of training program. Organizer of a training program will make sure that materials and required equipments are ready for training. A training organizer would be mentally prepared for conducting trainings. S/he would present training agenda before participants in a proper manner. S/he would play leadership role while setting group norms, seeking group intention, managing difficult behaviors and delivering active training programs. The trainer will have to play the role of the facilitator and guide for participants. S/he would encourage participants to express their views honestly and independently. S/he

must give respect to their views. S/he would expect active participation from every participant (Silberman & Hansburg, 2015).

2.1.8 Concluding an active training program

An active training does not end in non-educational way. Its end will be constructive, creative and useful. Participants will be given a chance to recall the ideas and information discussed in training. They will be encouraged to engage in the activities they have performed in training. They can rehearse the skills they have learned. They would be given time to reconsider their opinion about training (Thiagarajan, 2015).

2.1.9 Evaluating an active training program

Evaluation of a training program is considered as a final step of training but actually it is a restart of process of designing and delivery of training. Through evaluation of a training program, we can improve worth of our future professional developmental programs. We can modify our future training programs to get better results. We can also evaluate training programs on ongoing basis by getting feedback from participants and we can bring improvement side by side (Wilson & Smilanich 2015).

2.2 Quality of Teacher Education

It is universally recognized that quality can never be compromised. Any activity whether individual or collective, remains unattractive if its quality is not maintained. Education is such a process which can never compromise on quality (Noor, 2006). For quality education, it is extremely important to maintain the quality of teacher education. All the institutions working in this area are responsible for

producing quality teachers. The policy requirements are necessarily to be delivered within available resources. For this, quality works as a vehicle. It works as a catalyst encouraging change along with lawful/legal policy driven change. The important aspect of it is to make higher education more relevant to social and economic needs. It also widens access and expands numbers in such a way that the unit cost is lessened .Quality of teacher education needs a quality framework (Lee, 2003).

2.2.1 Quality framework

There are few quality principles through which quality framework is articulated. These are improving core activities e.g. teaching and learning, research and creativity, professional and community engagement, university service, aligning activities, budget and resources with the strategic plan, demonstrating leadership, innovation in enterprise activities, knowing the needs of students, customers and stakeholders, valuing and investing in staff, using information data and knowledge for decision making and hence improving outcomes (Lee, 2003). Training need assessment is basic requirement of quality education.

2.2.2 Training need assessment

For better training, need analysis of all participants must be conducted. Need assessment makes the task more productive. It can be done only by those who are engaged in the process as they have good recognition of needs of the trainees. Training can never be effective without this recognition. A coherent staff development policy determines the training need through continuous consultation with staff. It is the only way in which the model of continuing professional

development can be embarrassed. This process is also helpful for the trainees as they can recognize their own training needs (Helen, 1996).

2.2.3 Training as continuous process

It is a fact that qualification of any teacher can never end his process of learning as it is a continuous and a lifelong process. A teacher is advised not to miss any opportunity offered for his professional development. Learning never ends and each phase of training teaches something new. Hence, every teacher should be involved in a program that enhances professional skills. There are many reasons to enhance capacity of educators **(**Cowley, 2006).

Teachers have a chance to update their knowledge about teaching. It may be about the subject matter or some other area like behavior management. The daily routine of school gets a break at training courses. Teachers have an opportunity to share their personal experiences. It also adds to the value of their curriculum vitae guaranteeing their interest for enhancing the subject knowledge and interest in extending their skills. In-service teachers' training provides a chance of professional development to teachers **(**ibid).

2.2.4 In-service teacher training

One of major factors in the professional growth of teachers is in-service training. It has a lifelong relation with education. Teachers' participation in these trainings enhances their role in the transformational process (Rao, 2007). These courses aid in making the school environment better. The participants of the in-service training have a chance to get professional resources. As a result, their skills for teaching practices are fostered. This also makes them realize the needs of

educational system and their profession. The current researches have taken the pre-service and in-service teachers training as two aspects of a single process which has been termed as continuous professional development (Maik, 1999).

The necessary outcomes of this process are new teaching learning methodologies as well as new instructional technologies. In-service teacher training programs refresh the knowledge of teachers and provide chances to teacher community to share their experiences with their master trainers and training mates. In-service teacher training programs enhance the capacity of serving teachers and ultimately it affects the quality of teaching. In-service teacher training brings innovation in teaching learning process (Maik, 1999).

2.2.5 Teacher learning and teacher professional development

Teacher learning and teacher professional development have been interpreted by many scholars with different approaches. Various in-service courses organized by the educational institutions are in association with teachers' professional development (Gusky, 2000).Active involvement of teachers in acquisition of professional credence at their own results in their learning where reflection is of prime importance. This is their development at personal level (Ur, 1997).

Thus the above concept highlights that teacher education organized by any institution results in professional development of teachers whereas it is acquired by the teachers on their own and for their own sake. Its outcome is viewed as teacher learning though it falls in the same line of thought as the former does (Edge & Richards, 1998). The present study focuses on teacher's learning and teacher's professional development as connected elements. They have strong relationship that

one cannot work without other as their function lies in effective teaching practices and transformed teachers.

2.2.6 Four conceptualizations of teacher learning

Teacher learning has been studied significantly by Richards & Farrel (2005) who concluded four conceptualization of this area. Firstly, it was an opportunity to develop teaching skills. Secondly, it paved the way for using the cognitive activities which resulted in exploration of teaching beliefs through self-monitoring and general writing. These activities had a good impact on their classroom practices. At third place, teacher learning could result in construction of new knowledge that fits into teachers' personal framework. The last conceptualization was that teaching learning was a chance to reflect teaching experiences and practices. The study had assumed that teachers' learning in its nature is self-regulated. With this conception, it involves acquisition of professional skills whose application adds to teachers' efficiency improving practices. Moreover knowledge is also enhanced giving rise to meanings (Schön, 1983). It is also the behavior of the teachers which affects the application of professional skills in their teaching practices. Every activity with positive attitude would make its way in the classroom.

A general taxonomy of knowledge based teaching was provided by Shulman (1987). His chief concern was professionalization of teaching, elevating it to more respectability, more responsibility and more rewarding occupation. In this regard, teachers are required to gain expertise in specific skills which are categorized in seven bases in Shulman's framework. These would definitely add to the competence and professionalism of teachers.

2.2.7 Shulman's knowledge base for teaching

1. Knowledge of content (subject matter)
2. General pedagogical knowledge (classroom management and organization)
3. Curriculum knowledge (learning materials, syllabus design and requirements)
4. Pedagogical content knowledge (knowing how to organize and present/adapt contents and instructional approaches that best suit to students)
5. Knowledge of learners (students characteristics and learning needs)
6. Knowledge of educational contexts (learning environment- from classroom to communities and their culture)
7. Knowledge of educational ends, purposes, values and the philosophical and historical issues (how learning is viewed and valued by students, school, parents, and society?)

Few years later, it was Day (1993) who divided knowledge into four types. The first three i.e. content knowledge, pedagogic knowledge and pedagogic content knowledge are indicated with the Shulman's categories. Day's last type of knowledge is support knowledge which makes a teacher understand the related disciplines of language institutions. The four domains and the various standards have been exemplified by Day (1993).

Day explains that support knowledge is not entirely a new entity. It has much similarity to the pedagogic content knowledge. In 1998, Richards also gave his own domains of knowledge for second language teacher education. To him, there were certain elements which constituted the primary needs of language teachers. His domains are based on these constituents:

1. Theories of teaching

2. Teaching skills

3. Communication skills (general and language improvement)

4. Subject matter knowledge

5. Pedagogical reasoning & decision making

6. Contextual knowledge

Day (1993) did not include certain important aspects in his four types of knowledge. These are communication skills and language proficiency of teachers for effective communication in the target language. Another educationist Lim (1999) gave due importance to the language need of teachers. He emphasized on having pre-service courses for language improvement. There is a constant need of enhancing English language proficiency as found by various research studies conducted by Igawa (2008), Kusomoto (2008), etc.

There are different modes of teacher's professional development. Some of them are discussed here. Teachers get a chance to choose any way in order to enhance personal competence and add to professional growth.

2.3 Practices of Professional Development

A teacher throughout his career experiences formal as well as informal learning (Fullan, 1991). The formal learning is intentionally sponsored, classroom based and highly structured. On the other hand, the latter includes incidental learning which may occur in educational institutions. It is not based on classroom activity and the learner himself controls learning (Marsick & Watkins, 1990). The professional development has different traditional ways. It carries various courses which may be conducted annually at local, national or international level. Besides these, there are

certain other forms of professional development activities. The most recent one is joining communities of practice (Lave & Wenger, 1991), coaching and reflection (Schifter & Fosnot, 1993), and self-directed learning (Guskey, 2000).

Through professional development programs, teachers do learn something new. But these are classified as a short phenomenon. Teachers have a single chance for it which resultantly has very little to do with actual classroom work (Guskey, 2002). Barth (1991) and Fullan (1993) conducted research on professional development activity. They found that those who transformed the ways of learning proved the most successful, productive and efficient learners. Effective professional development is the part and parcel of professional development as defined by Guskey (2000). To him, it includes in it the enhancement of the professional knowledge and skills along with teachers' attitude resulting in the students learning. The major models recording the accomplishment of the aims of professional development has been listed by Sparks (1994), Sparks & Loucks-Horsley (1989) and Guskey (2002). These are discussed here briefly.

2.3.1 Training

Professional development and training have got similar meaning as both aim at adding to the skills for enhanced performance. Training is conducted by the one who shares ideas as well as information (Guskey, 2000). The aim of such activities is to enable the teachers to transfer the knowledge to their learners. Barkley & Bianco (2005) interpreted the process of training with their own approach. To them, it starts with 1) transfer of knowledge (theories, new practices, or academic content) through reading, lectures, and discussion; 2) modeling or demonstration of skills; 3) practice

refers to the application of the skills learned; 4) observation and 5) feedback are usually done with/by a coach or peers. Such kind of training reflects traditional strategies which need to be replaced by opportunities for knowledge sharing. The purpose of this is to provide the teacher a chance to share their acquisitions and their areas of interest for learning. They must also get a chance to connect new concepts within their unique context (Darling-Hammond & McLaughlin, 1995).

2.3.2 Observation, evaluation, and feedback assessment

Observations are continuously conducted by different high stakes. It is observed that the teachers may react negatively if the task is taken by outside agencies (Muijs & Reynolds, 2005). However, it is noted that process of observation highly benefits both the observer as well as the observed. So, it must be done appropriately and free of every bias and stress. Richards & Farrells (2005) remarked that peer observation refers to monitoring of any lesson for understanding of any aspects of teaching-learning process. The observer keenly looks for elements making the process more effective.

This process of observations may prove useful as it gives an opportunity to the teachers to peep into themselves, hence having an assessment of their teaching competencies. These activities are also a chance for peer discussion with prime focus on class related matters which results in sharing of useful applications (Bailey, Curtis, & Nunan, 2001). It is a difficult task, argued Doolittle (1994) to assess the efficiency and effectiveness of teachers. To him, the use of portfolio may be helpful for authentic assessment for licensure. This definitely results in enhancement of teaching capabilities and professionalism through provision of feedback.

2.3.3 Involvement in an improvement process

Teachers may also engage themselves in activities like curriculum development program or design etc. This is their involvement in improvement process which aims at solving general or specific problems. It also promotes joint efforts by the teachers in any collaborative learning situations. It is also responsible for research and development in school improvement process (Hopkins, 2003). Teachers' involvement in curriculum change and planning sharpen their skills in designing a curriculum making them active partners in improvement of school practices (Connelly & Ben-Peretz, 1980).

The direct involvement could be made counterproductive, argued Little (1984), through the school size and the quality of curriculum i.e. its complexities and comprehensiveness. Guskey (2000) found another shortcoming of this as such model did not have much effectiveness. The professional development got limited to few teachers who were in service in some schools.

2.3.4 Inquiry/collaborative action research

Teacher may carry out a systematic inquiry which in its nature is a kind of self-reflection, judging their own activities. This is termed as inquiry/collaborative action research which aims at finding solutions of classroom based problems resulting ultimately in betterment of teaching outcomes (Bennett, 1994). As teachers work on classroom based projects collectively, the most effective may be the collaborative action research as it paves the way for enhanced learning. This gives the teachers a chance to learn from one another along with other teachers. Knowledge is shared when they teach one another which definitely adds to their sustained learning. Oja

and Smulyan (1989) also found that action research projects made the teacher more flexible, making their mind to receive the novel ideas more positively and being competent enough to solve the problems at their own.

2.3.5 Individually guided or self-directed

Those who are self-directed teachers, are individually guided. They focus on their goals and keep on moving towards that. It is observed that the goal-oriented approach leads them to successful achievement. The important processes regarding self-directed learning were listed by Richards & Farrells (2005) are tabulated below:

Table 2.1

Self Directed Learning Process

1. Self-inquiry	Asking questions about one's own teaching practices and seeking information needed to answer these questions.
2. Self-appraisal	Assessing one's teaching and development on the basis of evidence from oneself and others and the ability to critically reflect and a desire to analyze oneself to determine one's strength and weaknesses.
3. Experience	Personal experience becomes the basis and stimulus for learning.
4. Personal construction	Meaning is personally constructed by the learner.
5. Contextualized learning	Learning takes place in a particular

	context and social setting and is socially constructed.
6. Planning and managing	Learning is dependent on the ability to set short and long-term goals and to select strategies for their achievement.

(Richards & Farrells, 2005)

There is almost no difference between self-directed learning and independent inquiry. The former does not employ solitary learning (Candy, 1991). The requirement for self-directed learning, argued Villegas-Reimers (2003) was the objective feedback otherwise it cannot prove to be a successful model of teacher's professional development. It means that self-directed learning is possible with active role of mentors as the process of professional development is facilitated and guided by them.

2.3.6 Mentoring or developmental coaching

The relationship between any older and any younger teacher could be extremely intense and mutually beneficial. The former is wiser, more experienced and more powerful than the latter that lacks in all their traits. An educational setting carries the same principle where this relationship is meant personal guidance by the experienced mentors to the new teachers at school level (Maynard & Furlong, 1995). Their relationships are formed in different ways depending upon formal and informal types of professional development. The programs for mentoring the new teachers as found by Chao, Walz, & Gardner (1992), are managed by the institutions. Some of these carry powerful engagement of the manager. These are very costly programs involving much resource ensuring their effective planning, structure and coordination

(Hansford, Ehrich, & Tennent, 2004). The top down process by the organizers is the matching of mentors to the learning teachers. This gives a chance of screening the competent mentor on the basis of certain selection criteria like job performance or job type (Eby & Lockwood, 2005). An extreme care is taken during the screening process. In case of any misunderstanding of the mentor's interest, there can be a lot of disappointment and the expected results cannot be obtained (Reiman & Thies-Sprinthall, 1992). This frustration can be avoided through investigation of proactive mentor training (Osgood, 2001), (Greyling & Rhodes, 2006).

As far as informal mentorship is concerned, these do not have formal recognition of any organization. So they are not properly managed or structured (Chao, Walz, & Gardner, 1992). In such a situation, the relationship develops occasionally between mentor and mentee. The origin of mentoring support may be from people not connected to the work place. In most of the cases, it might also be distributed as network developing one's ability for expansion of one's contacts thus making informal mentoring exclusive (Mattei, 2001). It is not easy to develop good relationship between mentor and mentee especially for those who lack in social interaction having small number of friends etc. The relationship can be sparked through some catalyst for enhancing its effect (Mattei, 2001).

According to Barrett-Hayes (1999), mentoring has two important roles. Firstly, it nurtures creativity in other and self and secondly, it gives a chance to synergistic co-mentoring opportunity. The focus of these is on non-hierarchal bounds making (Bona, Rinehart, & Volbrecht, 1995). This indicates that the roles of mentor and mentee take a shift and both come to the similar status as their teaching and

learning process leads to a mutual engagement. According to Clark (2004), the self co-mentoring experience is dependent on the interpersonal dynamics of mentor and mentee. She had carried out qualitative study on mentoring relationship with herself as responsibility. She found that roles of mentor and mentee shift equalizing the status of both regarding support and guidance for each other.

2.4 Characteristics of Mentoring Relationships

The differences and similarities of various kind of mentoring were presented by Clark (2004) through a grid.

Table 2.2

Characteristics of Mentoring Relationships

Characteristic	**Formal mentoring**	**Informal mentoring**	**Co-mentoring**
Design structure	Pre-determined length of time in the relationship	Often relationships last for an extended period of time	Often relationships last for an extended period of time
Allocation of responsibility to the mentor	Allocated by the management of the organization	Usually spontaneously formed	Based on each other's complementary knowledge and skills
Selection process	Little or no involvement of staff in the selection of mentor to protege	Voluntary, often based on mutual professional identity and respect	Friendship of peers
Monitoring	Monitored in terms	No formal	No formal

procedures	of expectations and goal attainment	monitoring	monitoring
Communication	One-way communication from mentor to dependent	Communication takes place in an informal manner	Dialogue occurs
Status of each person in the relationship	Inequality of status	Still a hierarchical status but communication less formal	Equal status
Type of relationship	Non-reciprocal	Reciprocal benefit	Reciprocal benefit
Mentor connection with dependent	Sometimes lack of connection occurs	More personal connection of dependent to mentor through coaching, counseling and role modeling strategies	Individuals act as partners complementing each other's knowledge and skills
Commitment to the mentoring program	May not always be committed to each other or to the program	Self selection based on personal and professional qualities	Mutual benefit gained from the relationship

(Clark, 2004)

Mentoring had been found as a synergized process of learning by Mullen & Lick (1999). Mentors thus serve as masters imparting knowledge to the mentees. Their role is that of a friend, supporter and a teacher having a sense of both students

and peers (Jonson, 2008). So an essential requirement for a mentor is that s/he must possess enough knowledge and must be skillful to enhance cognitive development of mentee. This is possible through problem solving strategies and provision of open communication (Robinson, 1993).

On this basis, Clutterbuck & Megginson (2005) defined mentoring as relationship facilitated and on the job learning. It was taken as the developmental coaching which aimed at enhancing an individual's ability to perform in association with his role at present or in future. This makes mentoring more learning than teaching thus enabling the mentee to add to his knowledge, groom his personality and perform his job in more efficient way (Whitmore, 1995). Mentor input has got certain specific traits in the target of previous discussion that is as under;

2.4.1 Characteristics of mentor input

1. Coaching, counseling, and networking
2. Nurturing creativity in others and self
3. Generating synergistic co-mentoring opportunities
4. Providing support and guidance
5. Providing information/professional knowledge
6. Modeling a sense of potential and inspire teachers
7. Serving as a friend, colleague, guide, advisor, supporter, and a teacher
8. Providing open communication, problem solving strategies, and conflict resolution
9. Promoting work-related skills
10. Ability to communicate effectively

2.4.2 Cognitive apprenticeship

Among many others, the most suitable ones are the instructional approaches at the initial stage when the learners just start comprehending any particular topic (Magliaro, Lockee, & Burton, 2005). It is the cognitive apprenticeship, posits Collins (1991) which helps in capacity building of student during instructional approaches. The teachers impart not only the subject knowledge but also the behavior and thinking process along with the techniques for handling various issues. This concept of cognitive apprenticeship was developed by Collins, Brown, & Newman in 1989 including six ways of instructions. These were modeling, coaching, scaffolding, articulation, reflection and exploration.

2.4.3 Six instructional methods

These instructional are listed in the following table.

Table 2.3

Instruction Methods

1. Modeling	learners observe an expert carrying out task and explaining how it is done
2. Coaching	offers learners help by giving hints, scaffolding, feedback, etc.
3. Scaffolding	provides temporary support by giving suggestions or direct help
4. Articulation	gets the learner to express or speak out their knowledge, reasoning, or ways of solving the task-related issues

5. Reflection	allows learners to compare problem-solving strategies with those of an expert
6. Exploration	learners tackles the task on their own

(Collins, Brown, & Newman, 1989)

During this process, it is very significant to consider the real learning context of the apprenticeship. Its essentiality cannot be denied (Brown, Collins, & Duguid, 1989). This implies that knowledge is co-produced by the situations through different activities .It can be argued that learning and cognition are fundamentally situated.

Here are features of effective professional development.

2.5 Features of Effective Professional Development

There was a brief discussion on different models of professional development activities. This can make the teachers efficient enough to make reformed decisions as they became aware of choices, they could take. It is the result of careful analysis of the factors influencing their professional development. Next to it would be interpreted the characteristics of effective professional development as Garet, Porter, Desimone, Birman, and Yoon (2001) found in their research. These significantly helped the teachers in attaining the knowledge, improving teaching skills and instructions resulting in better learning outcomes.

The study undertaken by Garet et al (2001) was an empirical analysis. They managed 1,072 teachers of mathematics for data collection. This was the project of Eisenhower Professional Development Program for national evaluation. A portion of 72 % of the population of the study responded to the research. It was a federal program supporting professional development for teachers. A comparison was made

among various features of professional development and their effect on teachers' achievement which were chiefly based on their self-reported transformation in their skillful teaching activities.

They found two classes of the characteristics of the professional development categorized as the result of their research. The first type was that of structural features whereas the second one was of core features of the professional development. This is shown in (Figure 2.1). There was found significantly positive impact of core features on teachers' cognition and professional skills during classroom practices as according to their self-reported transformations. Through these core features, teacher learning does have significant impact on the following structural features.

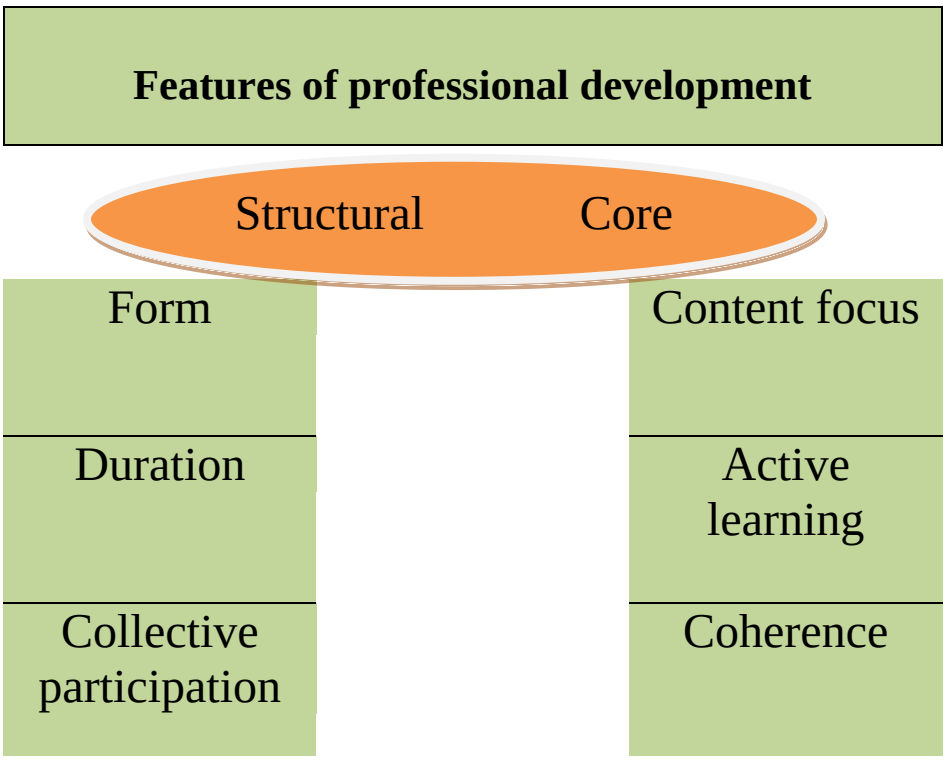

Figure 2.1. Features of Professional Development (Fullan, 1993)

In this model, it is shown that the structure of professional development is correlated to the structural features. These activities include forms, duration and collective participation. The first one i.e. form refers to the type of activity conducted during training. These may be traditional or reform kind of activities. The former carries in it workshops, courses and conferences while the latter's ways are coaching, study groups and mentoring. The second aspect is duration which makes the length of the given activity in hours, days, weeks etc. It also refers to the time spent by the teachers in such activities (Garet et al 2001).

It is an agreed view that professional development does not have any end. It is a long-term process involving a great range of related events. In views of experts of teacher education, it paves the way for teachers to integrate whatever skills they have acquired (Cohen and Piper, 2000). The teacher learning can be quite potential if it is in the form of collective participation. It also becomes a source of fruitful interactions (Clement & Vanderberghe, 2001).

As far as the core features are concerned, there prime areas are content focus, active learning and coherence. The activities focal to the enhancement of teachers' knowledge of the subject matter being taught are in fact the content focus. It is the teaching context that issues the professional development easing the teachers to relate the acquired learning and skills to actual classroom task on daily basis (Ganser, 2000). Active and passive learning are two separate rather opposing forms of getting knowledge. The first one demands active engagement of teachers in all activities like discussion, planning and practice. They have their personal observations also as they observe the experts and vice versa. Their participation also carries interactive

explanation and feedback. Teachers' engagement in specific task like teaching, assessment etc. has got consistence with the principle of constructivism (Dadds, 2001). Garet et al (2001) argued that there is a certain degree of coherence through activities during professional development. It is the incorporation of experiences performed for teachers' achievements. The said coherence is based on three extents. Firstly building on what teachers' have already acquired; secondly focusing the pedagogy and thirdly supporting the learning teachers through open communication with others like them.

The participants of the professional development activities must have prior knowledge of their field along with an existing frame of reference. Coherence in the professional development activities of present and past would necessarily result in teachers' effective transformation.

Here are some important components of professional development programs.

2.6 Components of Staff Development Programs

There are three integral parts of professional development programs. These are (i) general sessions (ii) small group endeavors and (iii) individual study (Marlwo, 2007). The teachers must emphasize on the general session for identifying problem. They should also be aware of the concerned committee for the solution of issues. This would be more effective if teachers also work on individual basis. Staff development circles the teacher and the teaching process which is supervised and guided by the experts and seniors in order to ease teachers' workability.

Elements which facilitate the teacher's transition from induction phase to continuous development phase are the components of continuous development. It is

of great importance that the new teachers must start avoiding depending on their mentors. They should rely on their own knowledge and skills .This kind of transition can occur only when there are essentially chances for reflection and collaboration. The reflective thinking skills are initiated during induction which continues enhancing with the passage of time. The teachers become capable to analyze the issues deeply and look for wide range of solutions (Barbra and Brock, 2006).

One-day training course during teachers' service cannot be termed as professional development. Professional learning is a process which the teachers go through on daily basis (Holmes, 2004). These opportunities include active research, studying through audio-visual aids, observing the peer work attentively, distance learning, keeping in touch with professional journals, engagement in online debates and self-directed study. This has a close relation with academic awards and tutoring activities. The task is carried out with a learning team that provides opportunities for team teaching and team assessment along with job shadowing and personal reflection.

The basic requirement for the researcher in this area of study is their capability to impact the knowledge of the learners (Cowley, 2006). Whereas in previous decades, teachers were expected to prepare only a small minority for the most ambitious intellectual work, they are now expected to prepare all students for higher order thinking.

Pakistan has a number of prominent teacher training institutes. Detail is as under.

2.6.1 Teacher training institutes in Pakistan

To have good scholars we must have good teachers but to produce good teachers there must be good teacher training institutions. So the importance of trained teachers in educational process is unquestionable (Cowley, 2006). In every province of Pakistan, there is a provincial teacher's training organization.

2.6.2 Directorate of staff development, Punjab

Education Extension Centre was established in 1959 at Lahore, but in 1994 its name was changed to Directorate of Staff Development (DSD). DSD was made a part of the University of Education. However, later on, it started working independently. It is now recognized by the government of Punjab and it is reorganized with new regulation and functions. DSD was established as sole agency for activities that are used for teacher development. It works for both public and private sectors. Provincial Institute of Teacher Education (PITE) and elementary colleges were brought under the administration of DSD. Its purpose is to well maintain and make equal in rank all professional development activities. It ensures the organization and coordination of professional development activities in the province. It ensures the efficient utilization of available resources (Mehnaz, 2014). In 2017, DSD was restructured as Qauid-e-Azam Academy for Educational Development (QAED), Punjab.

2.6.3 Provincial bureau of curriculum Baluchistan

Bureau of Curriculum and Education Extension Center were setup in Islamabad in 1970. In 1972, Bureau of Curriculum and Extension Centers were setup in all provinces. Provisional Bureau of Curriculum was allowed to work under the control of federal bureau to conduct trainings, policy formulation and curriculum

development. The purpose of this institution is to bring innovation and development of teaching and learning in government institutions i.e. colleges and schools. It is done by the teacher's professional training and easing their work through working in collaboration with different stakeholders (UNESCO, 2009).

2.6.4 Provincial institute of teacher education Baluchistan

In 1996, PITE Baluchistan was established in Quetta. The PITE worked under the control of the Bureau of Curriculum and Extension Center till 2007. PITE had started working under the guidance of provincial secretary of education. The reason behind changing PITE's role is to enable to play its compulsory role more powerfully now (UNESCO, 2009).

2.6.5 Provincial Institute Of Teacher Education Sindh

Pre-service and in-service professional trainings are held under the umbrella of Bureau of Curriculum and Extension and Provincial Institute of Teacher Education. PITE has been working for in-service training, research activities and material development in Sindh province. Bureau's services are utilized for training teachers and establishing the workshops. There is a relationship between the PITE and Bureau in providing in-service trainings. Bureau and PITE are considered as independent institutions and both had to report to the secretary education and department of education who provide them budget resources also (UNESCO, 2009).

2.6.6 The directorate of curriculum and teacher education K.P.

The Directorate of Curriculum and Teacher Education in Khyber Pukhtunkhwa (K.P.) controls over ten regional teacher training institutes of education, a government college of physical education and a government agro-

technical teacher training center. PITE KP is considered as semi independent institution because its budget is granted by the directorate of curriculum. PITE KP reports to the secretary directly. PITE KP works under the supervision of secretary schools and literacy department. It utilizes the services of bureau and Regional Institute of Teacher Education (RITE) for its in-service professional development programs (UNESCO, 2009).

2.6.7 Academy of educational planning & management Islamabad

In Islamabad, the Academy of educational Planning and Management imparts professional development programs to educational managers and teachers to different level of officers. Both the short-term and long-term professional development programs are conducted by the academy. It is the prime role of training wing to build capacity of managers, administrators, educational planners, supervisors and teaching faculty members. Until now, 10,000 educational managers have got trainings from Academy of Educational Planning and Management from all over the country. This institute offers professional development courses in the areas of finance, governance, management and leadership qualities (http://www.aepam.edu.pk).

2.6.8 National institute of science & technical education Islamabad

National Institute of Science & Technical Education (NISTE) is considered as an important national level institute for qualitative development of science and technology in all over the country. Professional development programs are being conducted under the supervision of NISTE since 1987. This institute has imparted professional development training to 18,000 teachers in the area of science and technology. The basic purpose of this institute is to develop scientific attitude in

teachers. It enhances the pedagogical and content knowledge and promotes the competencies of teachers which are required in job market (http://www.niste.edu.pk).

Below is a detail of Transformative Learning Theory around which this study revolves.

2.7 Transformative Learning Theory

Transformation Theory is the theory of how Transformative Learning occurs, what Transformative Learning is and how it is best developed in adults. Within Transformation Theory, there are a number of terms used synonymously for learning that transforms a person's meaning perspective: Transformative Learning, transformation learning and transformational learning. Often the term Transformation Learning and Transformative Learning Theory are used synonymously for Transformative Theory. A transformation refers to a non-reversible shift in a person's meaning perspective towards greater inclusiveness, discrimination, openness or permeability (to other ideas), flexibility, reflexiveness and autonomy. A meaning perspective is a basic belief or assumption a person holds about how the world works (Mezirow, 1978, 1991, 2000). Qualities of inclusiveness, openness or permeability (to other ideas), flexibility and autonomy are created through Transformative Learning. Transformative Learning provides opportunities for critical thinking. Transformative Learning provides opportunities to act on new perspectives. In induction of professional development program, novice teachers are introduced to the latest classroom practices, teaching methodology and lesson planning skills and their perspectives have to be changed in this regard.

2.7.1 Elements of transformative learning theory

According to Mezirow, the elements of ‘disorienting dilemmas’, ‘critical reflection’ and ‘rational discourse’ are keys to bring Transformative Learning.

2.7.1.1 *Disorienting dilemma*

A significant stimulus among a person which leads toward a perspective transformation is referred as disorienting dilemma. Significance level of disturbance and forcible attitude in a person is called disorient dilemma. For example, the deaths of life partner or a child, a divorce, a job lose or life threatening illness may act as disorienting dilemma. The dilemma becomes modest when someone engages in professional development program e.g. going to university, at the start of new career and reading a new book (Mezirow, 1991).

The result of this dilemma can be checked by evaluating a disoriented person that why s/he is doing so. Beliefs and thoughts are tacit assumptions which are examined by the disoriented person. Disorienting dilemma plays an important role in self examination because of rational discourse and critical reflection (Mezirow, 1991).

2.7.1.2 Critical reflection

Mezrirow describes critical reflection as being important in his theory. This process involves a person when s/he purposely combines new meanings through critical evaluation of his/her beliefs. Mezirow’s point of view about critical thinking is that it is a process which can happen in many ways. Identifying assumptions and reflecting these assumptions as objective is done through critical reflection (Mezirow, 1991, 2000).

2.7.1.3 Rational discourse

It is emphasized by Mezirow that the competence to bind in the rational discourse is decisive. A discussion in a logical manner, logically, personally and socially held beliefs and assumptions are known as rational discourse. Work is done in a way that the blind spot and inclination are highlighted by it. Rational discourse includes peer dialogue, deep dialogue, logical debates and teachers' discussions. Disorienting dilemmas promotes the adults perspective transformation. It is proceeded by many stages of progression (Mezirow, 1990).

2.7.2 Theoretical underpinnings of TLT

German philosopher Habermas's (1971) work is supported by Mezirow. He supports some of his declaration. Learning is based on scientific method obtained through empirical knowledge (Mezirow & Associates, 2000). Communicative learning is based on the understanding the personality of others and as well as his/her own personality to understand the social values of society in which s/he lives (Cranton, 1997). The communicative domain is a term which is used to explain the meaning of behind words. To understand the meaning of someone's conversation who is communicating, one must have the capability to critically judge the information in assumptions. Emancipatory learning is based on critical reflection; it is a process which gives the instruction to free ourselves (Mezirow, 1981).

According to Mezirow (1981) Transformative Learning is situated in the domains of communicative and emancipatory learning with perspective transformation itself being equated with emancipatory learning. Mezirow derived early versions of Transformative learning Theory from his work with re-entry

programs for women returning to college. This research was conducted using "methods of inquiry and criteria for assessing alternative interpretations", which Mezirow situates in the communicative domain (Mezirow, 1981).

Emancipatory learning focuses on self-knowledge and helps us to be able to critically reflect on the assumptions and meanings we encounter in the communicative domain, freeing us to develop alternate or new perspectives and undertake the actions necessary to integrate these newly-formed perspectives into our lives (Mezirow, 1981).

Problems can be solved by transformational learning. It can be done by defining, refining and reframing the problems. New understanding can be gained by the adults by their beliefs and assumptions. Beliefs may be made problematic at this time. We can say that there is transformational learning when beliefs are critically examined. Mezirow stated that redefining a problem is part of this process. Transformational learning has the strength to deeply affect the lives and behavior of the adults. In this study, by learning classroom practices, pedagogical skills, lesson planning skills, teachers can examine their trust about learning and teaching. Professional learning takes place due to transformational learning and the changes experienced by them are examined by this theory (Mezirow, 2000).

Brookfield (2000), Clark and Wilson (1991), Cranton (1994) and Tennant (1993) suggest that Transformative Learning is collection of some aspects, few of which are listed below:

1. A disorienting dilemma

2. Self-examination with feelings of shame or guilt

3. A critical assessment of epistemological, socio-cultural, or psychological assumptions

4. Recognition that one's discontent and the process of transformation are shared and that others have negotiated a similar change

5. Exploration of options for new roles, relationships, and actions

6. Planning a course of action

7. Acquisition of knowledge and skills for implementing one's plans

8. Provisional trying of new roles

9. Building of competence and self-confidence in new roles and relationships

10. A reintegration into one's life on the basis of conditions dictated by one's new perspective (Brookfield, 2000).

2.7.3 Transforming teachers: 'New' professional learning

According to Loucks-Horsley *(*1987), following are the principles of teacher's professional learning:

- Collegiality and collaboration
- Experimentation and risk-taking
- Incorporation of available knowledge bases
- Appropriate participant involvement in goal setting, implementation, evaluation and decision making
- Time to work on staff development and assimilate new learning
- Leadership and sustained administrative support
- Appropriate incentives and rewards
- Designs built on principles of adult learning and the change process

- Integration of individual goals with school goals
- Formal placement of the program within the philosophy and organizational structure of the school

Transformative teaching profession does not exist without fearless leadership in school. Emergence of leadership is necessary at the development level in transformative professionals at school level. These leaders try to transmit themselves. They are willing to become trustful, they take risks, they think and act with unity (Loucks-Horsley,1987).

The development of a transformative teaching profession will rely heavily on the willingness of those who have leadership roles to adopt an activist identity where the best path for growth and development diverges from that state to the state where talent nurtures without feeling threatened (Sachs, 2003). They work collaboratively for improvement without judging harshly and foster real autonomy through holding appropriate expectations and exercising trust in the capacity of others (Loucks-Horsley,1987).

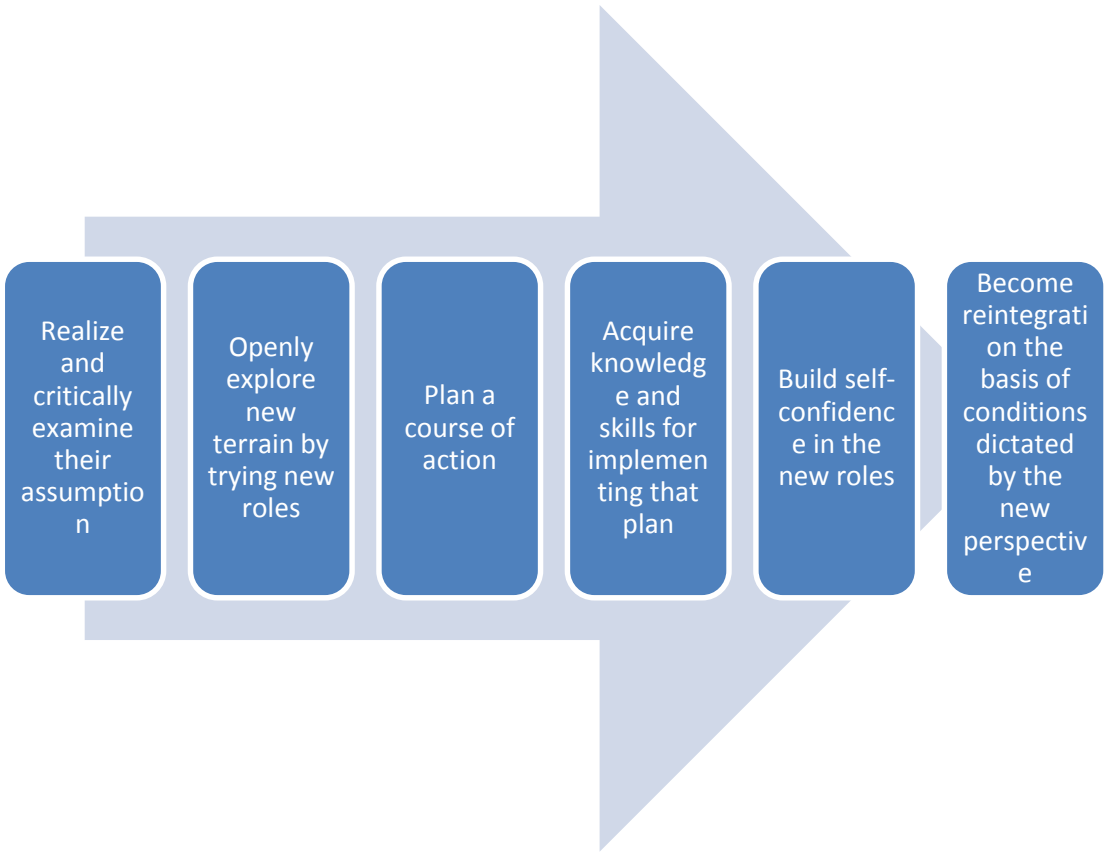

Figure 2.2. Transformational learning among Novice Teachers through Professional Development (Mezirow, 2000)

For transformation in teachers' views towards teaching and innovation in teaching methodologies, teachers are given an environment for critical examination of their assumptions. Researcher in this study tried to observe how novice teachers were equipped with new roles and how they transformed their way of teaching from traditional to modern.

Here is mechanism of Transformative Learning.

2.7.4 Mechanism of transformative learning

Disorienting dilemma is responsible for ignition of the Transformative Learning processes. Perplexity and discomfort in oneself occur due to disorienting

dilemma. It can also be based on small events which result in the beginning of Transformative Learning (Cranton, 1994). Disorienting dilemma can be positive or negative. For example, the death of a loved one and biggest achievement in life are negative and positive disorienting dilemmas respectively. Political and social events are also part of disorienting dilemma, for instance the breakdown of the government (Cranton, 1994). When someone feels shame or guilt, it leads to disorienting dilemma. Critical reflection is an important part of Transformative Learning process and it may be considered a key part of learning process (Brookfield, 1995). Transformative Learning occurs due to rational discourse.

Mezirow is of the view that safe and respectful surrounding must be there for learners to examine new concepts and roles and to question previous beliefs. Through dialogue, one can communicate with others. Moreover, recognition is also developed through dialogue (Mezirow, 2000). The development of perspective should be the result of Transformative Learning process and it should be alternative in nature (Mezirow & Associates, 2000). They are more complex and inclusive as compared to previously held notions (Cranton, 1994). Personal arena and social action may include these changes and actions.

2.7.5 Criticism on transformative learning

Criticism on Mezirow's theory focuses on: i) Hambermas theory and its utilization by Mezirow ii) failure to incorporate a comprehensive theory of social change iii) context and rationality iv) the need to differentiate between normal adult development process and prospective transformation, and v) role of reflection.

2.7.6 Criticism of Collard and Law

Collard and Law (1989) criticize Mezirow for his reliance on and use of Hambermas' theories. Mezirow identifies the ideal conditions for self directed learning which according to Collard and Law require relationship of equality. TLT does not acknowledge the difficulty of fostering conditions of ideal learning in social environment in which structural inequalities are entrenched.

Hart (1990) also focuses her criticisms of Mezirow's early versions of TLT on its theoretical bases and issues of power. According to Hart (1990), Mezirow's theory does not incorporate the issues of power and dominance raised by Habermas' work and he does not critique the current economic, social and political arrangements which are inherently tied to these distortions or disorienting dilemmas and fails to address the relationship between categories or domains of learning and distortion.

Mezirow also fails to place power and dominance at the centre of his emancipatory theory which Hart (1990) labels as uneven and non-committal. Further, Mezirow does not place critique and critical reflection activities within the realm of communicative action. According to Hart (1990), this is where these activities must take place within a theory of emancipatory education, which TLT purports to be. Hart also asserts that there are distortions, which Mezirow includes in his theory, that are beyond the scope or concern of emancipator education such as mental illness. She redefines the types of distortions that emancipatory education should be concerned with, i.e. social-cultural, interpersonal and intrapersonal, viewing these as all inter-related. She also feels that critical self reflection and ideology critique cannot be separated.

2.7.7 Issues with social change

One of the early criticism of Mezirow's TLT is that it did not present a comprehensive theory of social change which some critics find to be a severe deficiency (Collard and Law,1989; Hart 1990; cunningham,1992). Collard and Law also take issue with Mezirow's claim that a necessary element of perspective transformation is the taking of others' perspectives. They identify difficulties in determining exactly who has a more critical awareness, identifying one's own psycho cultural assumptions, and delineating the relationships between assumptions and social origins.

Mezirow addresses critiques regarding his use of Habermas theory, lack of social change theory and other issues regarding power and social context by asserting that his theory of perspective transformation is constructed through adult learning process. Transformation can be individual, grouped or collective. Although social action is necessary yet it is not the only goal of adult education. Learners, when they experience perspective transformations, may choose not to take action or may be prevented from taking action due to a variety of factors.

Further, Mezirow states that distortion in meaning perspectives occurs not only at the social-cultural level but also at the epistemic and psychological level. The outcomes of transformation at these levels may be markedly different. Mezirow views the goals of adult education and social and political action as necessary and important but feels that they are instrumental learning activities. Their purpose is to facilitate emancipatory learning experiences for adults to enable them for understanding their experiences through free and full participation in critical discourse.

2.7.8 Context and rationality

Clark and Wilson (1991) discuss the role of context in perspective transformation as well as the concept of rational discourse. In terms of context, Clark and Wilson assert that Mezirow's use of context is limited or generally acknowledged only as it relates to meaning perspectives and change to meaning perspective. Clark and Wilson suggested that Mezirow's theory of adult learning needs to be more concerned with exploring and understanding the relation between context and meaning rather than seeking to minimize the effects of context on meanings. Mezirow's response (1991) to Clark and Wilson asserts that his work does not seek to disconnect.

2.7.9 Normal adult development or transformation

Tennant (1994) explored the need to differentiate between normal adult developmental process and true perspective transformation. He based his arguments on life stages or life cycle theories which are seen as the normal processes that all adults got through during various stages of their lives. He asserted that although many normal changes which a given adult may experience throughout life may be experienced as fundamental shifts in world view, they are indeed merely "expected life cycle patterns".

Tennant's assertion is that in order for change to be considered true perspective transformation rather than normal adult development, both social and individual factors need to always be present and accounted for in the process.

Mezirow (1994) responds to Tennant's assertion that social critique is an essential element of Transformative Learning by reiterating that his purpose is to

develop a general theory of adult development and learning, as such every element may not be utilized in every situation or to the same degree. Although there is a lot of overlapping between socio-culture, psychic, and epistemic areas, transformation is possible in the psychic and epistemic realms without extensive social critics.

2.7.10 Role of reflection

Newman (1994) compares Mezirow's use of reflection in TLT to Friere's use of reflection in conscientization. Newman suggests that reflection should not initially be focused on oneself, but on one's enemies and the system of oppressions. He called for an educational strategy which first identifies and explores the enemy, then moves towards facilitating perspective transformation of the oppressed.

Mezirow's response to Newman's criticism was to reaffirm that TLT is a broad, general model which can be used to examine perspective transformation in a variety of contexts. Mezirow asserted that conscientization is restricted to reflection of socio-cultural code, where TLT extends into the epistemic and psychic code as well, resulting in a broader framework.

2.7.11 Examples of transformative learning

Many theorists and educationists have worked on Transformative Learning (Cranton 1997, Mezirow & Associates 2000). Example of TLT is study of adult college students during the course of English communication in which their perspectives were examined by their own understandings. This example was cited by Cohen & Piper, (2000). This study was about vocational students and it was found by Cohen & Piper that students absorbed assumptions about their understanding which was based on the experiences that they had. Past teachers were told by the students

that they were not good and they were weak in their early education (Cohen and Piper, 2000).

The Transformative Learning was being used by the students of class and Cohen availed this favorable change. Students were engaged by him in critical reflection and understanding was an essential part of their activities in the classroom. The purpose of his experience was not to swing from site to site. His students were from vocational career but the aim and object of this activity was to build confidence among students so that they could do whatever they wanted to do. Students had the right to select their vocational career independently (Cohen and Piper, 2000).

Students are allowed to work in small and large groups to express their concepts of understanding. Students' past educational events are reflected by themselves. Examining the previous experience resulted in questions regarding assumptions for their understandings. Previous jobs are analyzed by the students to know what type of understanding and obsessions were needed to do by them. As a result, manual work ideas were redefined by students with the help of mutual consensus. Testing of their skills revealed that students were able to grasp the understandings about the job (Cohen and Piper, 2000).

In the phase of transformation, transform perspective helps the students to examine their own life. Personal responsibilities of students' lives are examined by themselves rather than bent on mind on previous assumptions. Cohen and Piper (2000) therefore suggested that this was a troublesome phase.

2.7.12 Meaning structures: Perspectives and schemes

The perspective transformation has close relationship with the concept of meaning structure, which is the central aspect of understanding. The frame of reference is composed of two entities i.e. meaning perspective and meaning scheme (Mezirow, 1996). The former may be defined as the sets of predisposition that are the outcomes of psycho-cultural assumptions determining the horizon of our expectations (Mezirow, 1996). It is through them that our perception is shaped along with feelings and cognition. Thus, they serve as sets of codes, which are socio-linguistic, socio-cultural, psychological or epistemic. Social norms, personality traits, learning style etc. are the examples of one's meaning perspective (Mezirow, 1996). The concrete expression of meaning perspective is the meaning scheme which in fact is the 'consolation of concept, belief, judgment and feeling which shape a particular interpretation' (Mezirow, 1996).

There are several meaning schemes included in a meaning perspective making it broad pre-conception if anyone has the understanding of what knowledge carries and from where it originates.

This indicates the epistemic meaning perspective. Meaning scheme supportd and constituted this perspective, becoming the basis for the larger meaning perspective. The meaning schemes in this context include receptive way of learning and accepting every piece of information unquestioned. This information may be acquired from some authority like leader, parents etc. This may be a way to refute the prudence lying essentially in the nontraditional source of education. Participation in reflection leads to the transformation of meaning structures. The reflective activity

revolves around one's assumptions initiating transformation of one's meaning structures. This takes place when one faces the disorienting dilemma. The occurrence of transformation may be in meaning perspective or the meaning scheme depending on the form of one's reflection.

Reflection is categorized as content, process and premise. Reflection of content and process transforms meaning scheme commonly focused in everyday occurrence. On the other hand, reflection transformation of meaning perspective is possible through reflection on premise. The first two types of reflection raised what and how questions whereas the third raised the why questions. The meaning structures get transform in different ways as they are dependent on the form of reflection one is engaged in. Only a major life event can result in perspective transformation. Along with this, it may also be the outcome of change in meaning perspective as several incremental or accumulative events (Mezirow, 2000).

Mezirow (1994) found that learning may include "by refining or elaborating our meaning schemes, learning new meaning schemes, transforming meaning schemes and transforming meaning perspectives. Reflection of content and process pertain to all, reflection of premises transforms meaning perspectives only".

2.7.13 Transformative learning & professional development

The opportunities of professional development can be extremely helpful in facilitating the process of perspective transformation. For school teachers, it is always beneficial to join any professional development activity. This necessarily results in potential transformative experience in a number of ways. It develops learner-centered and constructivist approach to carry on educational process (King, 2002).

The world views of groups and organizations and even the individuals are adapted during adult development process. TLT is focused on how we make meaning and "how we learn to negotiate and act on our own purposes, values, feelings and meanings rather than those we have uncritically assimilated from others—to gain greater control of our lives as socially responsible, clear-thinking, decision makers" (Mezirow, 2000). These new or transformed perspectives or worldviews would be more complex than one's previously held.

Some important professional development related concepts are as follows.

2.8 Pedagogy

Pedagogy is the scientific and artistic handling of education. It ranges from full development of human being to acquisition of skills. It may be explained as the function or work of a teacher; teaching or the art or method of teaching (Gusky, 2000).

Pedagogical skills in education are the tools of teachers to balance their classroom activities resulting in their students' learning**.** These skills vary teacher to teacher depending on the grade level, number of students and type of information taught (Ur, 1997).

Every teacher has his/her own ways of teaching that are unique to his/her teaching methods. Some people use visual aids along with audio options to teach their students. However, pedagogical skills keep on changing according to students. When a teacher moves from one class to another, s/he has to adopt the way suitable for presenting the required information. For example, if a teacher switches from teaching second graders to ninth graders, s/he needs to change the way s/he relates to the

students. The vocabulary and mannerisms must be based on the age level, academic needs and number of students for better outcomes.

A great way to reduce confusion is to add to the knowledge of all teachers. This helps them to relate it fruitfully to their students. Lacking pedagogical skills has been found as a serious cause of drop out of many children of schools. They fail to educate them properly. For these reasons, the school administration must make mandatory for teachers to take additional classes to learn pedagogical skills for producing desired results (Edge & Richards, 1998).

2.8.1 Teaching techniques

A teaching technique is a detailed list of rules or a guideline for any teaching activity. It is based on the description of steps, or a set of do's and don'ts, and can often be linked to a method or strategy (Shulman, 1987). For example:

- With mind mapping, you apply guidelines for devising content in a holistic way. This is a technique that can be used in an individual working situation, in a group work, or by the teacher as a means of demonstrating something.
- In brainstorming, group centered instructions is carried out. Brainstorming is a way of collecting ideas or information in creative, effective and uninhibited way.

2.8.2 Teaching strategy

Teaching strategy is basically a process of explaining the content of any subject during teaching (Day, 1993).

Two types of approaches can be used in this regard.

2.8.3 Cognitive approach

Information is presented in a structured and organized way as the organized process (top down). Students remain passive, utilizing, gaining and breathing in. Teacher's role is like orchestra in controlling, correcting and providing information (Day, 1993).

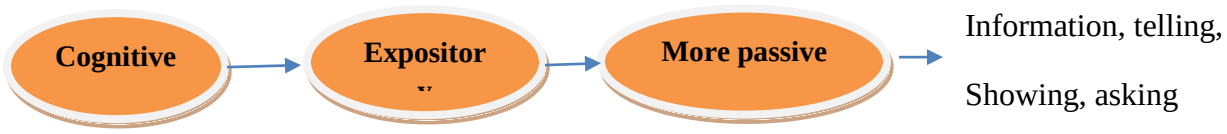

Figure 2.3. Cognitive Approach (Day, 1993)

2.8.4 Affective approach

The affective approach is based on "discovering" and it uses the curiosity of the learner to let him explore something on his own. No or little information is provided to explore an issue. Student's role in this is active and curious regarding the issue or problem. Teachers do not have involvement in solving the issue. Here, students learn by doing, by observing and by experiencing (Day, 1993).

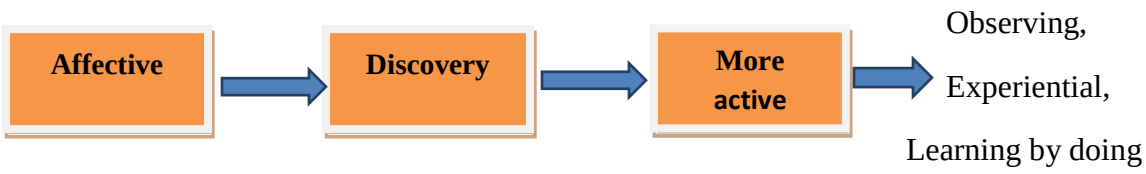

Figure 2.4. Effective Approach (Day, 1993)

Here is detail of some important teaching methods.

2.9 Teaching Method

A teaching method is comprised of the principles and methods which are used for instructions. Class participating, memorization, recitation and combination of

these are included in teaching method. The selection of the teaching method is based on the information which is to be taught. Students' inclination and enthusiasm may also influence it (Igawa 2008).

2.9.1 Types of teaching methods

Teaching methods have three broad types such as content focus methods, teacher centered method and interactive and learner center method (Guskey, 2002).

2.9.2 Instructor/teacher centered methods

Teacher should present himself/herself as a master of the subject which is being discussed. Teacher is the authority. Students remain passive and acquire knowledge from teacher. For example, in lecture method, little or no involvement of student is required (Guskey, 2002).

2.9.3 Learner-centered methods

In this category of methods, teacher's role is dual. Teacher plays a role of student and teacher at the same time. In the classroom of this type of teacher, intellectual horizon is extended rather than being confined. New things are learned by the teachers every day; s/he is not familiar with them during the course of teaching. In this method, teacher becomes a source of knowledge rather than an authority on it. Discussion method, discovery method and inquiry based method are the examples of learner centered method (Guskey 2002).

2.9.4 Content-focused methods

In content-focused method, both the teacher and the learner fit into the content that is to be taught. The information and skills are very important and inviolable which are to be taught. A lot of emphasis is laid on the clarity of concepts and careful

analysis of content area. The teacher and the learners do not have any authority to change anything critical in the content. The programmed learning approach is the one which overcomes the interest of the teacher and the learners regarding the content (Guskey, 2002).

2.9.5 Interactive/participative methods

In this category, theme is taken from other methods without laying emphasis on the teacher, the learner or content. Situational analysis drives these methods by creating the situation of the teacher and the learner having awareness of the fact that which thing is best for us to learn. They need an interactive understanding of varied factors and domains (Guskey, 2002). Some teaching methods are discussed here on the basis of above mentioned detail.

2.9.6 Lecture method

A lecture is given by the instructor as an oral presentation of information. This method is based on factual information. Principles, concepts and all theoretical work about the concerned context are included in it. All the information which learners require through listening and understanding is explained, described and told by the instructor. The teacher remains active during the entire lecture. As compared to trainers, learners become passive during lecture. Due to less involvement of learner, this method is limited in respect of its usefulness (Barkley & Bianco, 2005).

Little or precise knowledge or little background knowledge about the topic is provided in the lecture method of instruction. New information is given to the learners in an organized way, which is useful for them. Involvement in lecture

through discussion and question answer session can enhance the learning process of trainees.

2.9.7 Discussion method

The discussion method basically involves two-way communication among participants. Discussion is done by the students and teachers in classroom. During the process of discussion, teacher remains silent and the learners are provided with a chance to speak one by one. The discussion plays a pivotal role in learning more effectively than in lectures (Barkley & Bianco, 2005).

A discussion is a process of sharing information, new ideas, attitudes and experiences. It fosters the involvement of learners in learning process. It may also contribute to bringing change in attitude. Discussion plays an important role for lesson development. By this method, instructor can judge the trainees to know how much they have learned through their feedback in discussion.

2.9.8 Demonstration method

Occupational skill is taught by the demonstration method in most effective and organized way. In this regard, the ability to demonstrate and the competence to explain are the most essential skills. Operational lessons or informational lessons' success is based on these two essential skills. Demonstration is known as occupational skill of any planned performance experiment or scientific principle (Richards & Farrells, 2005).

Demonstration method is used in teaching students how to perform operations where manipulation is required. In this regard, there are several advantages. It consumes less time in presenting the operations. The power of observation is made

efficient by this method. Strong motivation is there and it is useful for training purpose of individuals. It can be defined as how to teach well depends upon how to show it (Hopkins, 2003).

A demonstration is "any planned performance by a presenter of an occupational skill, scientific principle or experiment". ‘Learning cycle’ involves three steps which are followed by an effective demonstration (Hopkins, 2003).

1. Stimulus step (introducing the problem).
2. Assimilative step (demonstration and development of the understanding by the learner).
3. Application step.

Demonstration method suggests reading about the presentation in advance. After that validity of all materials and equipments, visual data and teaching aid should be checked in advance. All these materials must be within reach and also in arranged form. Fifty minutes are enough for demonstration process. Skill or method must be used by the teacher; teacher should start work from simple to complex and step-wise at a time (Hopkins, 2003).

2.9.9 Presentation method

Presentation method was expanded in business and politics for persuading listeners. Things should be presented through speech, regalia or visual aids (Power Point presentations). Teacher must make sure that presentation is cynosure of all the eyes that all can see and hear it. Teacher’s role is professional, effective and cooperative. Students’ interest should be developed through class questions and teacher should keep eye contact with learners (Farrells, 2005).

2.9.10 Role plays

Role play plays a beneficial role in developing confidence among the learners. Personal experiences are used by the participants in role plays. Role plays provide opportunity to know and understand other people's point of views (Farrells, 2005).

Interview techniques can be explored by the role plays. It is useful for analyzing the complexities and group meeting conflicts. Role plays are helpful for participants to strengthen different lessons in one form which makes it good a energizer. Active part should be played by the students with their willingness. Participation success cannot be achieved because it is time consuming activity.

Strong emotions among the learners can be generated by some role plays. Deep briefing is an essential part for role plays. New issues are raised and generated by the students and participants in role plays (Farrells, 2005).

2.9.11 Assignment method

Reading books, research papers, projects and exercises are assigned by the instructor in assignment method. Assignment method provides a chance to familiarize students with classroom or laboratory work. It is helpful for teachers to demonstrate the abilities of students and it focuses on individual differences of their learner on the basis of their experiences and background. Learner opinion is aroused in this method. Creativity is enhanced with the help of assignment method (Villegas-Reimers 2003).

Assignment method includes small groups, peer learning, and independent group categories which give information to class in comprehensive way. It also helps the instructor to choose the assignment matter. When the instructor wants to choose

the best assignment which is the most beneficial for students, the additional questions are there which instructor can add (Eby & Lockwood, 2005). These may include:

- To verify the level of difficulty, what level of learning student will be needed to attain prior to instruction of assignment?
- For the completion of task of assignments, how much time will be given by the instructor to students?
- What amount of time and efforts will be required by the instructor to provide feedback to learner?
- What is the aim of assignment? (i.e. to explore student learning; to provide time to learner; to practice their concepts; to practice independent research; to perform group activity)
- How does the assignment consist of all the material of lesson plan? Is there content knowledge in the assignment?

2.9.12 Seminar method

Instead of a focus on teacher or individual student, the instructor and groups are involved in seminar method. General guidance about the group working or research project is provided in this method. Clark (2004) suggested that new and imaginative results could be provided to the groups in seminar method. Seminar method provided a chance for exchanging the ideas. It may explore techniques and approaches to a study group and help in problem solving.

2.9.13 Group work method

Moderated by the teacher, the cooperation between two or more than two pupils is known as group work method. Here, the participants have a passion for

cooperation. It plays an important role in making students independent and active. It creates creativity and curiosity among learners. Good preparation is required for group work. Rules of cooperation and skill of communication might be learned by the group members. Experts call for preparing well defined assignments in the written form. It is also necessary to explain the aims of group work (Clark, 2004).

2.9.14 Case method

This method deals with the real and fictitious cases. It is usually used in business education, psychology, medical education and law. It helps students in the skill of decision making. Since this method fosters creativity and self-esteem in learners, its proponents believe that it keeps the learners active. It consumes a lot of time because developing cases is a time taking activity (Clark, 2004).

2.9.15 Project method

It is the process of creating a useful product or service with the help of individual students, entire class or a small group. It is project based learning. It results in authentic value which is beyond the classroom. It may involve the community, organization, the school or public. It also engages the students. Due to constructivist process, it is similar to problem based learning. It develops creativity among learners (Clark, 2004).

Students, while doing the research, consult with experts who have done so many things in this area. Project should be based on the accomplishment which is performed by adults. Projects are based on school, community or combination of school and community. Students may complete their projects in their classroom or in homes (Clark, 2004).

Opposite to the traditional education, the problem of the students can be solved by a little direction from the teachers. Here, the students solve the problems by utilizing their problem solving skills. Teacher facilitates the learner in providing the knowledge and provides guidance to the learner where required. Here students are autonomous to explore knowledge and experiences. Students take interest in project method. They can take help from text books and other learning recourses. Project research emphasizes on experiential learning; it does not support the learning through memorization. Here student is given a democratic and collaborative environment to solve problems and gain knowledge (Mullen & Lick, 1999).

Here is some discussion regarding lesson planning.

2.10 Lesson Plan

Teacher's detailed focus and description about the course of instruction for a particular class is known as lesson plan. For guidance of the class instruction, a daily lesson plan is reported by the teacher. Details are about the teacher's performance, students' need, curiosity and the subject that is going to be taught. Lesson plan organizes teaching learning activity. It gives directions to learning process and facilitates the teachers for achievement of students learning outcomes (Clutterbuck & Megginson, 2005).

2.10.1 Developing a lesson plan

In this regard, there are many formats of lesson plan. Most of them constitute following elements:

- Title
- Time possibly to complete it.

- List of materials which are required during the lesson.
- List of student learning outcomes (SLOs) must be there. It may include behavioral objectives, cognitive objectives and skills related objectives.
- This includes skills or concepts which may require pictures or models and questions regarding previous lesson.
- The sequence of events which are used to make up the lesson is described as instructional component. With teacher's instructions and guidance, students try to use new skills.
- Self learning which builds confidence in students and allow them to seek knowledge on their own.
- A summary of the whole chapter or lesson is given by the teacher when s/he winds up the whole discussion.
- An assessment component consists of question answer session.
- Analysis component used by teacher to reflect the lesson that what needs to improve and what things we have already covered.
- A continuity element which reveals that present content is linked with previous content (Clutterbuck & Megginson, 2005).
- SLOs are introduced by teacher at first stage because it is a statement which indicates the aim of the whole lesson also. Answer of the objective statement is given by itself highlighting what students will learn after the completion of lesson. For the purpose of showing accomplishment of each objective, learning outcome must begin with the verb (Clutterbuck & Megginson, 2005).

The whole lesson is derived from SLOs. Teachers construct lesson plan carefully on the basis of SLOs; basically the objectives of the lesson. It is ensured by the teachers that students' learning outcomes are in accordance with the mental and age level of the students. Students' interest is also kept in view in this regard. Teacher must be confident about students' achievements that are purposeful (Magliaro, Lockee & Burton, 2005).

2.10.2 Herbart approach of lesson plan

Herbart and his followers developed five steps approach to lesson planning. Herbart suggested four steps: clearance, association, system and method. Later, Herbart's disciple, Ziller, divided the step clearance in two steps- (1) Preparation and (2) Presentation. Thus five steps of lesson planning are:

- Preparation
- Presentation
- Association/Comparison
- Generalization/Systemization
- Application (Purkait,1995)

2.10.3 Steps in the developing a lesson plan

According to Robert Gagne (1987) following steps are involved in the development of a lesson plan.

STEP 1

Organize the entire course into major topics, so that objectives for individual lessons can be justified.

STEP 2

Define objective so that human capabilities they represent can be clearly identified whether intellectual skills, cognitive strategies, information, motor skills or attitudes.

STEP 3

Design a teaching sequence to take account of the subordinate capabilities necessary to facilitate the attainment of the objective of the learners.

STEP 4

Identify each type of subordinate learned capability represented in the sequence.

STEP 5

Choose a single capability as a lesson objective.

STEP 6

For each objective, organize a teaching plan by considering the instructional events and effective learning conditions needed for each learning outcome.

STEP 7

Choose medium of instruction for each instructional event.

STEP 8

After delivery of lesson, assess student performance to see whether objectives of lesson has been met (Gagne, 1987).

In General topic module developed by Directorate of Staff Development, seven different format of lesson plan has been given and major focus is on activity based learning.

2.10.4 Learning outcomes

Goal oriented education is suggested by both aims and objectives which are treated as synonymous. On this behalf, some educational institutions and organizations use the term learning outcomes. Learning outcomes of every subject at every level are formulated by educational experts while formulating the curriculum. While designing and stating the student learning outcome, several factors are kept in mind like the competencies of learners, interest of learners and expected outcomes (Magliaro, Lockee & Burton, 2005).

This is the reason why educational organization replaced the term objectives with learning outcomes. The term learning outcomes is used with a course description where aims are also there. One can treat both the aim and objective as equivalent just for intended learning outcomes and for the measurement of learning outcomes. Beneficial outcomes are the part of the unintended learning outcomes; these outcomes are not planned and sought but can be simply observed (Magliaro, Lockee & Burton, 2005).

2.10.5 Selecting lesson plan material

A lesson plan is always related with the textbooks. Textbooks are usually selected by the school and teachers with a limited syllabus. The most appropriate books must be selected by the teacher with great care (Garet et al, 2001). In Punjab, text book board publishes primary to higher secondary level books.

2.11 Class Room Practices

Group interaction happens only because of classroom practices. Classroom practices help the teachers in managing the classroom for better interaction with

learners. Classroom is arranged and managed in such a way that maximum of the time and efforts may be utilized in teaching learning process. With the help of best classroom practices, a suitable teaching learning environment is created and resultantly learners can enhance their learning (Garet et al, 2001).

Some effective classroom practices are outlined below.

2.11.1 Effective practices in the classroom

It is necessary for the teachers to juggle great number of tasks in the class on daily bases. These tasks are instructions, maintaining discipline, formulating and implementing class rules and providing a positive environment for learners. If teacher uses effective classroom practices, he will surely be more productive as compared to other teachers who do not use effective practices in class. As a result of usage of effective classroom practices, learner behavior is managed properly (Garet et al 2001).

2.11.2 Engagement

Learner engagement plays a pivotal role in managing classroom and delivering effective instructions. Students become active when they are engaged in classroom practices. Students are provided opportunities for active participation in classroom tasks. Students are reinforced for active participation in learning process. In case of absence of proper reinforcement, learner behavior may be affected badly i.e. if a student is not involved in classroom practices and he is not provided a suitable reinforcement, he will resultantly become naughty. Reaction of students and action of teachers may also provide reinforcement to learners (Garet et al, 2001).

2.11.3 Expectations

Students must know or understand what teacher expects from them. Teacher must be dominant personality in the classroom and rules and regulations of the classroom must be explained by the teacher. It is necessary for every learner to follow these rules. Lessons and learning activities must be focused while following rules and regulations. Due to the confusion about assignments, students are unable to understand tasks effectively (Garet et al, 2001).

2.11.4 Teach behaviors

Teacher should teach behavior to students. It is better to tell them what teacher wants from them. Teacher should not completely rely on students that they know all the behavior and manners. Teacher should be sure that all the students have borrowed the behavior which is practised in the class (Garet et al, 2001).

For ill manners of students, teacher should teach them the alternate behavior. Misbehavior of the students will continue if it is not properly mended by the teacher. Teacher should try to inculcate positive behavior among learners. Ultimate result of teaching learning process is the creation of a sense of positive behavior among learners.

2.11.5 Consistency

Students often violate rules and regulation of class and school. They must be restricted to follow the rules all the time. Rules and procedures are forced consistently but that remains consistent with positive reinforcement system. Students do not remain consistent and there is a question regarding teaching methods (Clement & Vanderberghe, 2001).

2.11.6 Positive corrections

Teacher is dominant personality in the classroom. Distinguishing right from wrong should be taught by the teacher. He should correct the students where misbehavior is done by the students. It is all upon the teachers to tell them what is good and what is bad. Little time must be spent by the teacher on amending behavior of the learners. If a teacher provides positive reinforcement to learners, their behavior will be amended and shaped properly (Clement & Vanderberghe, 2001).

2.11.7 Reasonable consequences

It is compulsory for learners to understand the rules of the classroom and obey them. Consequences must be born in case of misbehavior. They must be reasonable. Over-reaction must not be shown by the teacher in this regard. Minor consequences should be given to small infractions. Let us take the example of a student who is not allowed to enjoy the recess time and s/he remains in the class during the recess time for a week. It is not an appropriate consequence for talking in the class but it can be appropriate consequence for the students who become aggressive with his/her classmates during recess time (Clement & Vanderberghe, 2001).

2.11.8 Student teacher interaction

Best learning environment is required for interaction of students and teacher. Teacher remains confident in the class and does not lose his/her confidence at any cost and keeps active interaction with students through eye contact. Teacher should call the students by their names. The classroom may be divided into different parts on behalf of mentality of students. Teacher should observe who is responding the questions properly and interacting in class continuously. Teacher should arrange

activities in the classroom for learners for their active participation. An interactive classroom produces qualities among learners like power of decision, creativity and curiosity (Garet et al, 2001).

2.11.9 Learning environment

Teacher and administration of a teaching institute must focus on creation of positive learning environment. There are several factors like culture, climate and availability of resources which may play a vital role in creation of positive learning environment. Teacher is the key element to create interactive learning environment in classroom and school. Classroom must be arranged according to the demand of subjects because every subject requires a different environment. Teacher and administration should manage relevant teaching material and resources in this regard. Classroom should be arranged in such a manner that it looks presentable. Space must be there for performance of peer and group activities. Classroom should be safe in sense of climate, temperature, culture and individual difference. It should be respectful and welcoming (Dadds, 2001).

2.11.10 Daily schedule

Specific schedule would be followed by learner. In this way, they can learn better. Schedule includes specific events, conferences and workshops which create interest among learners. Balance of teachers and child is maintained by these experiences. It manages the activities of classroom and develops a sense of organization among learners. Students' interests and individual differences are kept in mind in this regard (Dadds, 2001).

2.11.11 Motivation

It is an intrinsic force which drives learners towards a specific target. It is a tool which takes a learner towards success. The change of desire into will of a person is just because of motivation which works as a driving force. While motivating, the learner's different aspects are kept in mind. Motivation can minimize the trouble of learners and maximize pleasure. It is motivation which takes a learner from down to top. Motivation is inner driving force which seeks to act and behave in a certain manner. By motivating the learner, his/her capabilities can be enhanced and utilized in proper way. It is the teacher who motivates the learners and leads the nation towards success (Ganser, 2000).

2.11.12 Activity based learning

In activity based learning, activities are designed and presented before the learners. Active participation of learners is ensured through performance of activities. Learning in the best way can take place by doing. In activity based learning, learners remain active rather than being passive. Learning becomes joyful when activities are performed in classroom. It gives opportunities to learners to express their views and enhance their skill. Communication skill of learner is also enhanced by performing activities. One of the best characteristics of activity based learning is that it provides students to learn according to their own aptitude and skill. It can be called self-learning. In activity based learning, teachers and learners produce low cost material and enhance the creativity of learners (Ganser, 2000).

Teacher may involve learners by using low cost materials. In Pakistan, Directorate of Staff Development (www.dsd.edu.pk), Association for Academic

Quality (www.afaq.edu.pk), UNESCO (www.unesco.org.pk/education), Canadian International Development Agency (www.cidapsu.pk), Deutshe Gesselschaft International Zusammenarbeit (www.giz.de/en/worldwide), Japan International Cooperative Agency (www.jica.go.jp/pakistan), Ali Academy, Khan Academy and City School System have worked on development of low cost materials. This material is present as open education resource on websites and is easily accessible. Information and communication technology can be integrated in classrooms in this regard (Mehnaz, 2014).

In activity based learning, learners are assigned different tasks keeping in view their intellectual level, skill and interest. Student teacher interaction is carried out to perform different activities. SLOs are focused while designing and performing activities. Students may be involved in different games, learning tasks, designing activities for developing a sense of curiosity and achievement among learners. Students may sing songs, do drawing and art works and solve mathematical and scientific problems. They may discuss different issues of political and social science. They may prepare individual and group tasks and assignments.

In activity based learning, curriculum is divided into small units and each unit is linked with activities. These activities are interrelated and integrated with other subjects also. Here, students' psychomotor skills are focused in proper way (Ganser, 2000).

2.11.13 Classroom management

The process of making sure that lesson plan in classroom runs smoothly with pleasant behavior by students is viewed as classroom management. Prevention of student's disruptive behavior can be employed through this. Teacher prefers to leave the school instead of experiencing misbehaves (Magliaro, Lockee & Burton, 2005).

If teacher does not maintain his/her control in the classroom, it becomes impossible for him/her to regain it. Teacher corrects misbehavior of the students which causes lower rate of academic management. Effective classroom management includes cooperative learning, peaceful environment and communication of behavioral expectations. The teacher should try to create a cooperative environment in the school. S/he would manage his/her classroom in such a way that maximum of the time would be consumed in teaching-learning process. A well-managed classroom is that where a teacher puts his/her knowledge with full enthusiasm and learner learns with full dedication (Ganser, 2000).

Activities are managed by effective classroom teachers on the first day of school keeping in mind the needs of learners. Middle school learners need these things: 1. Should I be welcomed? 2. What will we do today? 3. Is it right classroom? 4. Does my teacher take interest in me? 5. What are the basic rules in classroom? 6. What are the SLOs? 7. What is teaching methodology? 8. What is assessment criterion? 9. What are expectations from me? and finally, 10. How the question answer session will be conducted?

Keeping in view the above mentioned questions and learners' needs, a school teacher will prepare his/her lesson plan and classroom activities in the following

sequence: 1. conversation with learners, 2. preparation in advance for lesson, 3. roll call and sitting arrangements, 4. learners' identity cards, 5. introduction and core rules (leaving other's stuff alone finally exiting the class entry, listening, raising hands), 6. explanation of objectives and assessment system, 7. assessing techniques, 8. self-analysis, 9. planning of next session and lastly 10. access after class. School teacher who keeps in view the needs of learner, communicates well with the students and enhances their competencies and mends their behavior in a positive way is considered as better teacher (Magliaro, Lockee & Burton, 2005).

2.11.14 Dealing with individual differences

It is necessary for a classroom teacher to have awareness regarding individual difference of learners keeping in view learners' capability, interest, culture and mental level etc. If the teacher does not know students' individual differences, s/he will not be capable of enhancing their knowledge because it provides less opportunity for learning. Whenever a teacher is going to plan learning process, s/he would consider the factor regarding individual differences. Individual differences are specific traits of any group depending on their interest and competence. An effective teacher keeps in view learners' individual and collective needs while taking their classes. S/he focuses on every learner's individual needs and takes the whole class collectively towards learning (Magliaro, Lockee & Burton, 2005).

2.12 Review of Related Researches

The use of Transformative Learning theory in the educational context had many contributive elements like higher education (Barlas, 2000; Cohen & Piper, 2000; Glisczinski, 2005; Taylor, 2000), corporate human resources development (Yorks &

Marsick, 2000), academic committees (Kasl & Elias, 2000), community education (Silverman, 2004; Waithe, 2005) and professional development for teachers (Dumochel, 2004; King, 2002; Saavedra, 1995; Smith, 1999). The studies undertaken had focused on how Transformative Learning could be facilitated in specific educational situation for specific learners.

Taylor (2000) argued that teaching with development of intent occurred when Transformative Learning was facilitated among adult students in formal university settings. Cohen and Piper (2000) had used the residential learning communities for facilitating perspective transformations in adult university students. The capacity of teacher education program was investigated by Glisczinski (2005) by using qualitative and quantitative analysis. The researcher in this method had used the same methodology as Glisczinski had. The study found that professional development resulted in effective transformation.

The perspective transformation of the students of the directorate was inspected by Barlas (2000). His point of attention was to look how social change was promoted through the linkage between personal transformation and subsequent actions. The framework of action research and collaborative inquiry were used by Yorks and Marsick (2000) to explain the organizational transformation in corporate setting. They gave the examples from the real world and problem-solving events. The group activities were conducted where the participants experienced transformational learning. Module developers, through group activities significantly assisted the novice teachers in transforming teaching practices. It was also asserted by Kasl and Elias (2000) that the group activities enabled Transformative Learning. They

conducted a case study of an academic committee of university developing doctoral program in transformational leadership. The result of this study showed that Transformative Learning and group processes could be examined with the same view.

The students of Vietnamese communities were studied by Silverman (2004) who explored their learning process and transformative results. They had been there in projects to protect coastal and marine environment. It was found that there occurred higher level of transformation during collaborative processes. The relationship between perspective transformation and behavior change was investigated by Waithe (2005). The professional development of the educators was examined by Dumochel (2004). She considered the content areas related to environmental education. Her framework of elements of educational experiences devised upon the past studies on Transformative Learning and adult development. There were found a number of elements involved in this process e.g. place, content, reflections etc. All these researches commonly found that transformation had been the outcome of group work done in collaboration.

Smith (1999) also conducted research on perspective transformation in teachers. She evaluated its influence on the classroom practices. It was the participation of the teachers in different professional development activities that they got perspective transformation. Another research was conducted by Saavedra (1995) who found perspective transformation of novice teachers as a result of group work. The main findings of the study asserted that this setting produced group transformation acknowledging the relationship between context and product where “context shapes

the activity and talk and in return the activity and talk generate and shape the context" (Saavedra, 1995).

The above mentioned researches have one thing in common i.e. transformation process was effective in the group activities. The researchers found that the novice teachers brought novelty in their classroom practices through innovation like activity based teaching, use of technology and use of low cost teaching material. King (2002) delivered educational technology instruction to practicing educators. Her wide range of experience made her realize that this activity had a great potential for transformation of teachers.

There are several factors which play an important role in professional development. Other than modules and master trainers, there are some other factors like environment, motivation and mentoring which play a vital role in professional development. Transformation needs a specific environment, in which trainees are given an environment to review their assumptions.

On the other hand, Gibbs and Coffey (2004) reported positive result of these training programs on the effectiveness of teachers. Using the approaches to teaching inventory, they presented four month program and the approach shifted from teacher-centered to student-centered. They also found that academic teaching was also positively effective through these trainings. It was however, found by Postareff et al. (2007) that these transformations were gradual. Teachers' pre-service trainings were found not necessarily related to their productivity (Douglas and Tim, 2011). The effective use of up-to-date technology was studied by Galien and Bowcher (2010) in a well-informed curriculum. They found teacher training program as a key to their

professional development. Gao and Wang (2014) concluded that different teaching experiences shape the teaching practices in different ways. These experiences do carry the effect of school cultures of teaching interacted with the centralized curriculum and teaching community. Thus there were various effects of training on teachers depending upon social and cultural circumstances of learning (Kemmis, et al. 2014). The findings of the study conducted by Consuegra, Engels and Struyven (2014) pointed out that the schools did not tend to facilitate the purpose of work place learning. They instead hinder it. The teacher with pre-service training resulted in student's higher achievement (Moulding, Stewart and Dunmeyer, 2014). Stuckey, Taylor & Cranton (2013) worked together on evaluation of Transformative Learning theory. The population of the study was the college teachers. The theory encompassed various perceptions of Transformative Learning.

The transformational learning could also occur, as described by Walker and Molnar (2013) by bringing about changes in students' perceptions of scientists, of themselves for science investigation and considering it a requirement for future life. Nicolaides and McCallum (2013) interpreted the theory and practice of teachers' professional development as a source of Transformative Learning and adoptive leadership. The interrelation of both these was studied by Cain and Dixon (2013) and Nash (2013).They constructed a rational for using the transformative teaching in reforming education of literacy teachers.

A study exploring transformative pedagogy as a result of group work was undertaken by Vettraino, Linds, and Goulet (2013). According to Michele, Tanaka, Nicholson and Farish (2012), teacher educators facilitated the

Transformative Learning course whereby the meaningful topics were investigated by the students on reflexive and relational basis within greater educational and socio-culture scenario. The findings of Shockley and Banks (2011) showed that the in-service teachers after Transformative Learning, made them unbiased of race and culture.

Recently Duckworth, Gordon and Ade-Ojo (2016) carried out a case study of literacy learners. This case study illustrated that how Transformative Learning can be encouraged (jtd.sagepub.com). Gao & Wang (2014) showed that different teaching experiences of the teachers and their school cultures interacted with the centralized curriculum and teaching community shaped their teaching practices in different ways. Andrea, Helaine &Nan (2017) struggled to provide suitable instruction to low-literate laborers in English as a second language class for adult learners and implemented substitute pedagogy based on a culturally receptive approach through Transformative Learning. Glenn and Sheila (2017) through qualitative approach revealed that beliefs of beginning teachers transformed as a result of new teacher induction program in Canada.

All these researches led the researcher to the recognition that Transformative Learning Theory had some unique perspectives which could reveal delicacy of educators' experiences. The present study stretched to the evaluation and comprehension of teachers' learning experiences founded on the literature about transformation learning theory (Cranton, 1997; Merriam & Caffarella, 1998; Mezirow, 1994; Mezirow & Associates, 2000; Taylor, 1998). This made this research

quite different from all other researches on traditional professional development of teachers.

Previous studies, Transformative Learning Theory and review of literature provided basis to this research and research questions. Previous studies provided guidance for evaluation of professional development of novice teachers. As first time in Punjab, novice teachers were imparted professional development so this study was done in different context .In this study all stakeholders of professional development program like module developers, master trainers, novice teachers were consulted. Improvement areas of previous studies led the researcher to formulate objectives, hypothesis and design research questions of study.

2.13 Summary

The whole discussion can be synthesized with the conclusion that all the theories of the professional development programs focus on nurturing teachers' knowledge and skills required in the classroom. Subject matter knowledge of teachers and various pedagogical experiences of the teachers have basic role in teaching learning process. These factors lead to the effectiveness of teaching.

Successful teaching is essentially the result of teachers' good knowledge of subject matter along with their professional skills related to imparting instructions. Teacher must be capable enough to apply various strategies to help students in enhancing their knowledge through motivation. Only a dynamic teacher can have variant teaching. The fame of any teacher is due usually to his/her quality of teaching. This process promotes literacy by imparting knowledge to the learners. The quality of classroom and teaching learning process remained the areas of study for long. These

are being attended to increasingly in recent years. Teacher education is the process that must take place both pre-service and in-service (Rao, 2007).

Human performance gets improved through professional development as it adds to the knowledge and skills of teachers. The process carries instructions to fill the gap for its effectiveness. It is not a short term process; it rather goes a long way and continues for life time.

The transition of teachers form induction phase to the continuous improvement phase is a part of continuous development. The new teachers get coaching from mentors making them, with the passage of time, self-reliant and well equipped with problem solving skills (Barbra & Brock, 2006). This is essentially the result of the provision of opportunities for reflection and collaboration. The teacher plays his/her role not only as a communicator but also as a motivator. This needs enhancement of communication skills of the learning teachers.

Transformative Learning Theory has its own procedure of occurrence resulting in Transformative Learning. It is an irreversible change in person's meaning perspective carrying inclusiveness, permeability and flexibility. This change is the outcome of a continuous development process, the individuals, groups and organizations pass through. Meaning perspective refers to the fundamental belief of any person about how the world functions. Both Transformative Learning and transformation learning have the same meaning (Mezirow, 2000).

Mezirow (1978) undertook a study and found that Transformative Learning was brought about through disorienting 'dilemmas', critical reflections and rational discourse. He argued whether one of these elements was applied or all were applied,

results led to Transformative Learning. These elements may also be combined. The process of transformation may wholly be linear or it may occur step-wise or disjointed. However, transformative experiences can be in individualistic flow and in recursive ways (Taylor, 2000).

Professional development opportunities necessarily facilitate the perspective transformation in teachers. Transformative Learning is dependent on the educational context and the types of learning. Any professional development program can be fruitful only if the training needs of teachers are assessed. This assessment leads to the formulation of objectives of the program. This is followed by the selection of module developers who select the content of the course and the activities to be practiced. All this is brought in black and white. The educational experts train the master trainers to conduct the program and transfer their knowledge and skills to the learning teachers. Depending upon the nature of training, the models for professional development vary accordingly. Professional development programs are designed and run duly considering different educational theories. Many organizations are at work in this area, both in public and private sectors. Their focus of attention during these programs includes teaching methodologies, classroom practices and use of technology etc. (Cowley, 2006).

Teacher's qualification is essential to start his career. But it is to be pointed out that teacher training is a lifelong process offering teachers a chance to update and enhance their knowledge about their profession. This may be about a specific subject or area like classroom management etc. Training courses also assure the sharing of personal experiences of teachers as an interesting and attractive process breaking the

daily routine of school. The research undertaken would uniquely examine the procedure of occurrence and nature of perspective transformation experience in relation to the professional development. The research is based theoretically on the recognition of transformational learning through the process of education in order to peep into the professional development of novice teachers. The research is being carried out after the synthesis of literature related to professional development and Transformative Learning.

Different theories and models of professional development given by different educationist like Richards & Farrel (2005), Shulman (1987), Day (1993), Hopkins (2003), Bennett (1994) were discussed in this chapter. It was motivating for researcher to evaluate professional development of novice teachers in the light of Transformative Learning Theory introduced by Mezirow. Transformative Learning Theory guided the researcher to formulate theoretical framework of study. As the objective of professional development program was to equip novice teachers with the latest teaching methodologies, classroom practices, production of low cost material and bring transformation in this regard so, in this research, the researcher analyzed whether any transformation occurred among novice teachers or not. The researcher's area of the study was restricted to the context of the province of Punjab.

Review of literature and previous studies facilitated researcher in designing and developing research instruments, selecting sample and collecting and analyzing data. Detail of research methodology has been discussed in next chapter.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Nature of the Research

The major purpose of the study was to evaluate the professional development of novice teachers in the context of Transformative Learning in Punjab. Objectives of the study were to investigate professional development of novice teachers in the areas of pedagogical skills, classroom practices and lesson planning skills in the context of Transformative Learning ,to evaluate the professional development modules for novice teachers in the context of Transformative Learning according to the views of module developers, to explore Transformative Learning among novice teachers manifesting in classrooms and to compare the professional development of novice teachers with respect to their designation, academic qualification and professional qualification.

The use of Transformative Learning Theory in the educational context had many contributive elements like higher education (Glisczinski, 2005; Taylor, 2000), corporate human resources development (Yorks & Marsick, 2000), academic committees (Kasl & Elias, 2000), community education (Silverman, 2004) and professional development for teachers (Dumochel, 2004). The study undertaken had focused on how Transformative Learning could be facilitated in specific educational situation for specific learners.

Transformation refers to a non-reversible shift in a person's meaning perspective towards greater inclusiveness, discrimination, openness or permeability (to other ideas), flexibility, reflexiveness and autonomy. A meaning perspective is a basic belief or assumption, a person holds about how the world works (Mezirow, 1978, 1991, 2000). Qualities of inclusiveness, discrimination, openness or permeability (to other ideas), flexibility and autonomy are created through Transformative Learning. Transformative Learning provides opportunities for critical thinking. It provides opportunities to relate to others going through same transformation process. Transformative Learning provides opportunities to act on new perspectives. In professional development induction program, the novice teachers were introduced latest classroom practices, teaching methodology and lesson planning and their perspectives were changed in this regard.

Mixed method approach and sequential exploratory design was used for this study because this was an appropriate design to conduct such studies (Creswell, 2009). The capacity of teacher education program was also investigated by Glisczinski (2005) by using qualitative and quantitative analysis. The researcher in this method used the same methodology as was used by Glisczinski. The study found that professional development progress resulted through effective transformation. Review of literature supports the methodology used in this research.

Kirkpatrick's Training Evaluation Model was used to evaluate professional development program of novice teachers. The four levels of Kirkpatrick's Training Evaluation Model are: Reaction of trainee (what participants thought and felt about training), learning (the resulting increase in knowledge or capability), behavior,

(extent to which trainee applied learning and changed their behavior), and results, (the effects resulting from the trainees' performance), (Kirkpatrick, 1994).

Keeping in view Kirkpatrick's Evaluation Model, 13 items were included in the questionnaire to know the reaction of novice teachers. These items were: 1) Master Trainers realized me about my improvement in lesson planning. 2) Trainee helped peers to improve lesson planning during group activities.3) Master Trainers involved trainees in extensive practice of lesson planning.4) Master Trainers helped trainees to practice traditional and modern teaching methodologies.5) Master Trainers appreciated trainees to adopt activity based teaching methodologies.6) Master Trainers facilitated trainees to practice various teaching techniques.7)Master trainers inspired trainees to raise questions regarding teaching methodology.8) Master Trainer appreciated trainees to practice new instructional techniques.9) Master trainer motivated to adopt modern effective class room practices.10) Master Trainers appreciated classroom interaction.11) Master Trainers practiced student assessment techniques.12) Master Trainers facilitated to evaluate the assignments and the projects of the trainees.13) Master Trainers facilitated trainees to learn classroom management practices.

Following Kirkpatrick's Evaluation Model, 12 items were included in the questionnaire to know the learning of novice teachers. These items were:1) Trainees performed activities for critical analysis about their previous lesson planning skills.2) Master Trainers taught essential steps of lesson planning.3) Master Trainers involved trainees in group activities related to lesson planning.4) Master Trainers focused on SLOs during lesson planning.5) After training, the trainees use learner centered

teaching in classroom.6) I use motivational techniques during my classroom instructions.7) I use AV Aids in class properly.8) I use teaching methodology according to demand of lesson.9) Training modules helped in strengthening of concept of classroom practices.10) Group activities strengthened classroom management skill.11) Activity Based lesson planning was not focused in training.12) Classroom practices were not focused in training.

Keeping in view Kirkpatrick's Evaluation Model, 12 items were included in the questionnaire to know the behavior of novice teachers regarding professional development. These items were:1) I keep in mind individual difference of students while taking class.2) I use technique of peer review in class.3) I create environment of group discussion in class.4) I focus on achievement of learning objectives in class.5) Trainee peers helped each other to adopt effective class room practices.6) After training, I feel pleasure to interact with my students.7) I am capable to create environment conducive to learning.8) I build confidence of my students during discussion.9) I provide feedback to students properly.10) I assign home work regularly.11) I use effective assessing techniques.12) I reward students on showing positive behavior.

Keeping in view Kirkpatrick's Evaluation Model, 13 items were included in the questionnaire to reveal the reaction/effect of professional development.1) Trainees developed low cost instructional material with the help of trainers.2) Major focus was given to activity based lesson planning.3) I use self reflection to analyze my lesson planning skill.4) Training modules were helpful for me to improve lesson planning skill.5) After training, I come in class with planned activities now.6) Master trainer

introduced trainees various teaching methodologies.7) The trainers strengthened my pedagogical skills of trainees.8) Master Trainers involved trainees in teaching methodology related group and individual activities.9) Training modules were helpful for improvement in teaching skills.10) Master Trainers introduced trainees from various classroom practices.11) Lesson plan related assignments were not useful for lesson planning skill.12) Master trainer did not strengthen my teaching methodology.13) Training modules were not useful for trainees.

In the qualitative phase of study, interviews of master trainers and module developers of Induction Training were conducted to explore their views about professional development of novice teachers in the context of Transformational Learning.

In the quantitative phase, quantitative data were collected from novice teachers through structured questionnaire to gain information about transformation in novice teachers in the areas of lesson planning, teaching methodology and classroom practices. Observations were made to find out transformations among novice teachers manifesting in classrooms.

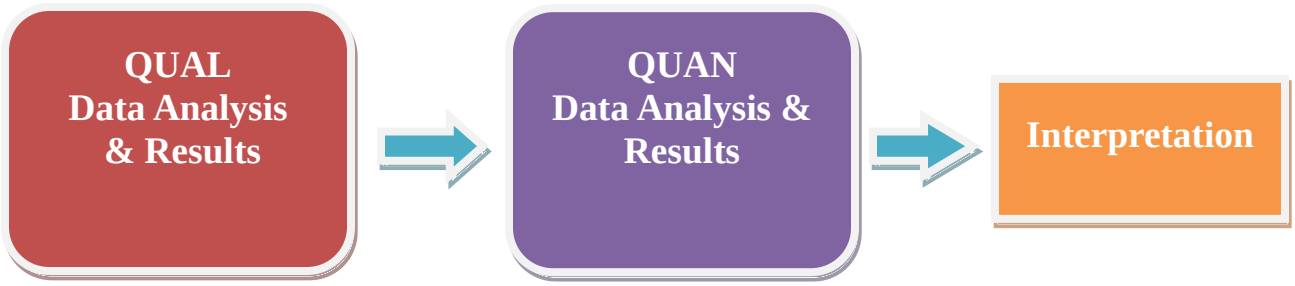

Figure 3.1. Research design (Creswell, 2009)

Creswell (2009) considers sequential exploratory design suitable for such studies. In this design, firstly qualitative data is collected and analyzed then quantitative is collected and analyzed and then data is interpreted. Qualitative and quantitative results of the study have been interpreted in findings and conclusions.

3.2 Population of Study

The population of the study comprised of 78,092 Elementary School Educators, Senior Elementary School Educators and Secondary School Educators who were recruited in last three years (2010, 2011and 2012) and were imparted four-week induction training by Directorate of Staff Development Punjab Lahore in 36 districts of Punjab (Govt. of Punjab, 2012). These 78,092 school teachers were selected as target population of the study. It was not possible to cover the entire target population of the study; hence, the selection of accessible population was obvious. For this purpose, the researcher included District Bahawalpur, Dera Ghazi Khan, Faisalabad, Gujranwala, Kasur, Rahim Yar Khan, Rawalpindi and Sargodha where number of novice teachers per district was more than 1500 who were recruited in the School Education Department Punjab and were trained through induction professional development program.

Master trainers and module developer of this training were also identified as accessible population. Detail of population is given in tables.

Table 3.1

Detail of Population of ESE, SESE and SSE

District	No. of Trained ESEs	No. of Trained SESEs	No. of Trained SSEs	Total
Bahawalnagar	1194	703	250	2167
Dera Ghazi Khan	1042	561	250	1864
Fasialabad	2710	1503	319	4583
Gujranwala	1823	937	261	3036
Kasur	678	625	390	1706
Rahim Yar Khan	1431	659	310	2419
Rawalpindi	1768	1255	476	3531
Sargodha	755	605	214	1589
Total	11401	6848	2470	20719

(Govt. of Punjab, 2010, 2011, 2012)

Table 3.2

Detail of Population of Master Trainers & Module Developers

District	No of Master Trainers	No. of Module Developers in DSD Punjab
Bahawalnagar	20	20
Dera Ghazi Khan	11	
Fasialabad	51	
Gujranwala	15	
Kasur	13	
Rahim Yar Khan	19	
Rawalpindi	32	
Sargodha	15	
Total	176	20

(Govt. of Punjab, 2010, 2011, 2012)

3.3 Sampling

Multi-stage sampling technique was used to select the sample. At the first stage, from the accessible population of Novice Elementary, Senior Elementary and Secondary School Educators, 5% school teachers of each stratum were randomly selected as sample of the study, making a number of 1,036 novice teachers. According to Gay (2000), if the population size is 78,000, the sample would be 382, but the researcher took a sample of more than this proposed number to get a better picture. At the second stage, forty eight novice teachers were observed in their classrooms by randomly selecting two novice teachers from every stratum of Elementary, Senior Elementary and Secondary School Educators of the eight selected districts.

At the third stage, 20% of master trainers were randomly selected from the accessible population as sample of study making a sample of 35 master trainers. At the fourth stage, 50% of module developers were randomly selected as sample of study making a sample of 10 module developers. According to Gay (2000), a sample of twenty is enough for respondents where what or why questions are involved.

Sampling procedure is briefly discussed in Table 3.3

Table 3.3
Sampling

Stage	Sample selection Procedure	Total sample
1st	Stratified random	1036 school teachers
2nd	Stratified random	48 school teachers
3rd	Random	35 Master Trainers
4th	Random	10 Module developers

3.3.1 Sample of the study

Detail of selected sample is given in tables 3.4, 3.5 and 3.6.

Table 3.4

Detail of Selected Sample of ESEs, SESEs and SSEs for seeking their opinion

District	No. of Trained ESEs	No. of Trained SESEs	No. of Trained SSEs	Total
Bahawalnagar	59	35	13	107
Dera Ghazi Khan	51	29	13	93
Fasialabad	135	75	17	227
Gujranwala	91	47	13	151
Kasur	33	31	20	84
Rahim Yar Khan	72	33	15	120
Rawalpindi	88	63	24	175
Sargodha	38	31	10	79
Total	567	344	125	1036

Table 3.5

Detail of Selected Sample of ESEs, SESEs and SSEs for observation

District	No. of Trained ESEs	No. of Trained SESEs	No. of Trained SSEs	Total
Bahawalnagar	2	2	2	6
Dera Ghazi Khan	2	2	2	6
Fasialabad	2	2	2	6
Gujranwala	2	2	2	6
Kasur	2	2	2	6
Rahim Yar Khan	2	2	2	6
Rawalpindi	2	2	2	6
Sargodha	2	2	2	6
Total	16	16	16	48

Table 3.6

Detail of Selected Sample of Master Trainers & Module Developers

District	No of Master Trainers	No. of Module Developers
Bahawalnagar	4	10
Dera Ghazi Khan	2	
Fasialabad	10	
Gujranwala	3	
Kasur	3	
Rahim Yar Khan	4	
Rawalpindi	6	
Sargodha	3	
Total	35	10

3.4 Research Instrument

Since it was a mixed method research, the researcher had to choose different types of instruments to collect data. These included a questionnaire, two structured interview schedules and an observational checklist to evaluate the professional development of novice teachers in context of Transformative Learning. Questionnaire was based on five point Likert scale; Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (DA), Strongly Disagree (SDA), for data collection from novice teachers included in the sample of study. Different contents of the questionnaire included lesson planning, teaching methodology, classroom practices, personal, departmental and professional information. This questionnaire was filled in by the

novice teachers included in the sample. Questionnaire was comprised of following parts:

1. Lesson Planning (14 Items)
2. Teaching Methodology (17 Items)
3. Classroom Practices (19 Items)

The questions related to lesson planning focused on previous lesson planning skill, steps of lesson planning, improvement in lesson planning, group activities, peer work, practice of lesson planning, production of instruction material, activity based teaching and lesson planning related assignments.

Teaching methodology covered introduction of teaching methodologies, effectiveness of teaching modules, planning of learning activities, pedagogical skills, group and individual activities, traditional and modern teaching methodologies, raising questions, learner centered teaching methodologies, motivational techniques, use of audio visual aids, caring of individual differences, peer review, group discussion and achievement of teaching objectives.

Classroom practices included teacher-learner interaction, assessment techniques, modern instructional techniques, assignments, project evaluation, conducive learning environment, confidence building, discussion, feedback, assigning of homework, reward and activity based learning.

Thus questionnaire consisted of 50 items about above mentioned three areas. The questionnaire was structured and close ended (Appendix D).

Self designed structured interviews for master trainers and module developers were conducted to explore transformation in novice teachers. While selecting the

questions for interview schedule and questions, the researcher focused on three important areas of TLT, i.e. disorienting dilemma, critical reflection and rational discourse. While formulating the statements in the questionnaire items, the researcher was guided by the previous available literature about TLT. In addition, already developed and used instruments about TLT were consulted while drafting the questionnaire items. Before administering the questionnaire, the researcher discussed these drafted items about TLT with the supervisor and educational experts.

Focused areas of study i.e. lesson planning, classroom practices and teaching methodologies were also kept in mind while selecting questions (Appendix A & B). Training Modules have also been appended (Appendix E, F, G & H).

Table 3.7

Alignment of Elements of TLT with Interview Schedule for Module Developers

Elements of TLT	Questions of Interview Schedule
Disorienting Dilemma	1. What were the objectives of this professional development program? 2. What previous experiences were expected from novice teachers regarding lesson planning? Which type of lesson planning was introduced to novice teachers through modules? 3. How novice teachers were guided to resolve conflicts regarding previous held lesson planning skills and newly introduced lesson planning skills? 4. Which teaching methodologies were already possessed by novice teachers? Which were newly introduced? How did novice

	teachers feel when going through the process of learning of new teaching methodologies? 5. How novice teachers were facilitated to differentiate among teacher-centered and student-centered teaching methodologies? 6. Which new classroom practices were introduced in the module? Which practices were already being exercised? 7. How novice teachers were facilitated to resolve conflicts regarding classroom practices?
Critical Reflection	8. With reference to lesson planning, which important areas were focused in the module? 9. What steps were proposed to analyze the lesson planning skills of novice teachers? 10. Which strategies were proposed to compare novice teachers' previous lesson planning skills with newly introduced lesson planning? 11. How the comparison of traditional and modern teaching methodologies was presented for novice teachers? 12. How novice teachers had to analyze the effectiveness of innovative teaching methodologies? 13. Which classroom practices were emphasized in the module to adopt them in real classroom situation? How these practices were compared with previous ones?
Rational Discourse	14. What types of activities were proposed in module for

enhancement of lesson planning skill? What type of group work was proposed for this purpose?

15. Which strategies were proposed for extensive practice of lesson planning? What type of presentations novice teachers had to present in this regard?
16. Which steps were proposed for development of low cost instructional material related to lessons? How mutual cooperation among novice teachers was to be enhanced for this purpose? Which changes were expected from novice teachers regarding lesson planning?
17. Which techniques were proposed for novice teachers to motivate themselves for effective teaching? How innovative teaching methodologies had to affect novice teachers' attitude towards teaching?
18. Which teaching methodologies were emphasized to adopt for meaningful teaching? How collaborative teaching was promoted in this regard?
19. Which strategies were proposed to create environment conducive to learning?
20. Which activities were proposed for execution of classroom practices? How these activities helped novice teachers to change their beliefs towards teaching?
21. Which outcomes were expected from novice teachers in the

	result of professional development program?

Table 3.8

Alignment of Elements of TLT with Interview Schedule for Master Trainers

Elements of TLT	Questions of Interview Schedule
Disorienting Dilemma	1. What were the objectives of this professional development program? 2. What previous experiences were expected from novice teachers regarding lesson planning? Which type of lesson planning was introduced to novice teachers? 3. How novice teachers were guided to resolve conflicts regarding previous held lesson planning skills and newly introduced lesson planning skills? 4. Which teaching methodologies were already possessed by novice teachers? Which were newly introduced? How did novice teachers feel when going through the process of learning of new teaching methodologies? 5. How novice teachers were facilitated to differentiate among teacher-centered and student-centered teaching methodologies? 6. Which new classroom practices were introduced in the module? Which practices were already being exercised? 7. How novice teachers were facilitated to resolve conflicts regarding classroom practices?

Critical Reflection	8.	With reference to lesson planning, which important areas were focused in training?
	9.	What steps were taken to analyze the lesson planning skills of novice teachers?
	10.	Which strategies were executed to compare novice teachers' previous lesson planning skills with newly introduced lesson planning?
	11.	How the comparison of traditional and modern teaching methodologies was presented for novice teachers?
	12.	How novice teachers analyzed the effectiveness of innovative teaching methodologies?
	13.	Which classroom practices were emphasized for novice teachers to adopt them in real classroom situation? How these practices were compared with previous ones?
Rational Discourse	14.	What types of activities were performed for enhancement of lesson planning skill? What type of group work was proposed for this purpose?
	15.	Which strategies were executed for extensive practice of lesson planning? What type of presentations novice teachers had to present in this regard?
	16.	Which steps were taken for development of low cost instructional material related to lessons? How mutual cooperation among novice teachers was enhanced for this purpose? Which

changes were observed among novice teachers regarding lesson planning?

17. Which techniques were adopted for novice teachers to motivate themselves for effective teaching? How innovative teaching methodologies affected novice teachers' attitude towards teaching?
18. Which teaching methodologies were emphasized to adopt for meaningful teaching? How collaborative teaching was promoted in this regard?
19. Which strategies were proposed to create environment conducive to learning?
20. Which activities were performed for execution of classroom practices? How these activities helped novice teachers to change their beliefs towards teaching?
21. Which outcomes were observed among novice teachers in the result of professional development program?

Table 3.9

Description of sub area of TLT reflected in questionnaire

Sub area of TLT	Question Item No.
Disorienting Dilemma	3,6,8,9,11,13,18,29,33,35,36,38,46,47,48,49,50
Critical Reflection	1,2,10,16,17,19,20,22,25,26,30,31,32,34,42,44,45
Rational Discourse	4,5,7,12,14,15,21,23,24,27,28,37,39,40,41,43

A self developed observation checklist based on 3 point Guttman scale Yes, To Some Extent and No was used to find out transformation among novice teachers by observing them in classrooms. This observation checklist included such aspects as lesson planning, teaching methodology, classroom practices, personal, departmental and professional information. This observation checklist comprised of the following parts:

1. Lesson Planning (5 Items)
2. Classroom Practices (15 Items)
3. Teaching Methodology (5 Items)

Thus observation checklist consisted of 25 items about the above-mentioned three areas (Appendix C).

3.4.1 Pilot testing of the questionnaire

Self developed interview schedules, questionnaire and observation checklists were tried out for pilot testing to identify its ambiguities and inadequacies. Ten questionnaires were distributed among novice teachers to get their responses. Two master trainers and one module developer were consulted for interview. Classroom teaching of four novice teachers was observed for the pilot testing purpose. Several changes were made on the basis of pilot testing of instruments.

First item of interview schedule of master trainer and module developer was "Did you know the objectives of this professional development program?"This item was replaced with," What were the objectives of this professional development program?"After pilot testing, the order of items in questionnaire was changed. Items

were arranged relating to concerned areas of lesson planning, teaching methodology and classroom practices.

Expert opinion from the faculty of social sciences of International Islamic University and other educational institutes was also obtained regarding research instruments. This exercise was done to ensure language comprehension, reliability and validity of the instruments. Reliability of questionnaire and observation checklist was measured by Cronbach's Alpha and the value was 0.86 and 0.94 respectively.

Qualitative researches consider reliability as the eradication of informal mistakes that can affect the results (White, 2005). Reliability of interview guide was attained through triangulation during the study through careful organization of data, cross examination, careful reviewing of the data by reading argument regarding the results gained from respondents, using video recording and audio tapes to save collected information.

3.5 Data Collection

Data was collected by the researcher himself through instruments mentioned above from the sample respondents. In the first phase, interviews of 10 module developers and 35 master trainers were conducted by the researcher. Interviews were audio taped and then were transcribed on paper. Permission was sought from the concerned authorities and respondents to collect the data. Questionnaires were circulated to 1,036 novice teachers with the help of the administration of School Education Department of the eight districts but 932 novice teachers returned the questionnaire. Questionnaire return rate was 89.96%. Classroom teaching of 48

novice teachers were observed to evaluate professional development of novice teachers by the researcher. Each observation took forty minutes.

Data was collected during the period from January 2014 to July 2014 by sending questionnaire through mail. Role of novice teachers, heads and administration was supportive. The novice teachers were trained in 2010, 2011, and 2012 so they had two to four years to put things learnt at the professional development program in to practice. In Punjab, District Teacher Educators provide on job professional support to teachers in the areas of activity based lesson planning, classroom practices, pedagogy and work on assessment also. On the basis of mentoring and assessment data, teachers and schools are ranked in clusters. So it was supportive for novice teachers to bring learnt things in to practice and improve their responses. The data collection procedure is described in Table 3.10.

Table 3.10

Data collection procedure

Stage	Activity	Participants
1st	Interview conduction	35 Master trainers + 10 Module developers
2nd	Questionnaire distribution	1035 school teachers
3rd	Classroom observation	48 school teachers

3.6 Data Analysis

The responses of master trainers and module developers were analyzed qualitatively. For the analysis of qualitative data collected through interview schedules, data were organized, coding was made to categorize the data and emerging

themes were interrelated and interpreted to evaluate professional development of novice teachers in the context of Transformational Learning. Data obtained through checklist was analyzed through an independent sample t test.

For analysis of quantitative data, point value 1 to 5 was assigned to responses of positive statement of questionnaire: SA=5, A=4, UD=3, DA=2, SDA=1.For negative statement of questionnaire, point value was reversed that was: SA=1, A=2, UD=3, DA=4, SDA=5.Responses of observational checklist were assigned these values: Yes=3, To some Extent=2, No=1. The statistical technique one way ANOVA and an independent sample *t* test at significance level of 0.05 were used to analyze the data and p value of ANOVA was used to judge the mean difference in variables. The analysis and interpretation of data were meant to highlight differences.

One way ANOVA was used at significance level of 0.05 to find significant difference in the mean scores of novice teachers regarding professional development in the areas of lesson planning skills, classroom practices and teaching methodologies in the context of Transformative Learning with respect to their designation and academic qualification.

An independent Sample *t* Test was used at significance level of 0.05 to find significant difference in the mean scores of lesson planning skills, teaching methodology and classroom practices in the context of Transformative Learning with respect to professional qualification of novice teachers. Before running ANOVA and an independent sample *t* test, assumptions and descriptive statistics like mean, Standard Deviation, Skewness and Kurtosis were tested. The analysis of data has been presented in the form of tables.

3.7 Summary

This chapter dealt with defining population, selection of sample, designing and development of research instruments, data collection and data analysis. Research methodology was discussed in detail in this chapter. In the next chapter, research data has been analyzed keeping in view research questions and hypotheses.

CHAPTER 4

PRESENTATION AND ANALYSIS OF DATA

This chapter deals with the analysis of information obtained from the study sample. The objective of the study was to evaluate the professional development of novice teachers in the context of Transformative Learning in Punjab. Two self designed interviews, one for module developer and second for master trainer were conducted. Other than it, a self developed questionnaire based on five point Likert scale; Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (DA), Strongly Disagree (SDA) was used to collect data from trained novice teachers. A self designed observation checklist based on 3 point Guttman scale Yes, To Some Extent and No was used to observe classroom teaching of novice teachers.

4.1 Qualitative Analysis of views of Module Developers in the context of Transformative Learning

For the analysis of qualitative data collected through interview schedules from 10 module developers, data were organized, coding was made to categorize the data and emerging themes were interrelated and interpreted to evaluate professional development of novice teachers in the context of Transformational Learning.

The analysis of qualitative data collected from module developer is given here. Following themes emerged during analysis of the qualitative data.

Table 4.1

Qualitative Analysis of Interview Schedule of Module Developers

Themes	Categories	Codes
Objectives	1. Lesson Planning 2. Teaching Methodology 3. Classroom Practices 4. Use of Educational Technology 5. Government Initiatives	Activity-based Learner-centered Innovative Effective
Lesson Planning	1. Disorienting Dilemma 2. Critical Reflection 3. Rational Discourse	SLOs Activities Low cost material Assessment Development Homework Assignments Project
Teaching Methodology	1. Disorienting Dilemma 2. Critical Reflection 3. Rational Discourse	Traditional methodologies Modern methodologies Peer review Group activities Presentations Activity-based methods Learner-centered methods

Classroom Practices	1. Disorienting Dilemma 2. Critical Reflection 3. Rational Discourse	Interaction with students Question answer Brainstorming Motivation Classroom management Reinforcement

Table 4.1 shows that module developers were aware of the objectives of professional development program and their focus was attainment of these objectives. The table shows that the focused area of professional development program was transformation among novice teachers in the areas of lesson planning, teaching methodology and classroom practices. Process of disorienting dilemma, critical refection and rational discourse was adopted for professional development for novice teachers. Novice teachers had to transform their lesson planning from content based to SLO based and activity-based. Professional development modules provided material for strengthening of lesson planning skills through production of low cost material, practicing assessment techniques, activity-based home work, related assignments and projects.

Professional development modules provided material for transformation among novice teachers in the area of teaching methodologies by following process of disorienting dilemma, critical refection and rational discourse. Novice teachers had to transform their teaching methodology from traditional to modern by involving themselves in peer review and group discussion. They had to strengthen their teaching methodologies through presentations. Novice teachers had to adopt activity-based and learner-centered teaching methodologies.

In professional development modules, learning material was provided for novice teachers for adoption of innovative classroom practices like interaction with students, use of question answer techniques, brainstorming, motivation, classroom management and reinforcement. Novice teachers had to transform traditional classroom practices to innovative classroom practices by involving themselves in the process of disorienting dilemma, critical reflection and rational discourse.

4.1.1 Module developers: Lesson planning and disorienting dilemma

1. Regarding the objectives of Professional Development Program, module developer 5 said that as a module developer, we were informed about the objectives of Professional Development Program. These objectives were to strengthen novice teachers in the areas of content, pedagogical skills, SLOs based and activity based lesson planning, transformation in pedagogical skills, classroom practices, use of education technology, government initiatives in the field of education, modern concept of teaching and learning process. Module developer 10 viewed that it was the first time that Government of Punjab took initiative regarding professional development of novice teachers. So Directorate of Staff Development informed module developers regarding objectives of this program. These objectives included introducing novice teachers with government's initiatives in the field of education, SLOs, activity based lesson planning, modern teaching methodologies, use of information technology in education, quality education, classroom related activities and content (QUAL Analysis 1).

2. Regarding previous experiences of novice teachers about lesson planning, module developer 7 viewed that it was expected that the novice teachers had traditional view in this regard which was based on general and specific objectives and which had less focus on activities and interaction with students. Through modules, novice teachers were introduced to SLOs and activity based lesson planning. In these modules, learner's concept building and learner's interaction with teacher and students was focused (QUAL Analysis 2).
3. Module developer 9 explained that novice teachers were guided in resolving the conflicts among previously held lesson planning skills and newly introduced lesson planning skills in three ways. Firstly, they were informed that it is the demand of new era. Secondly, it is the demand of the profession. Thirdly, it will help them in future to strengthen their professional skills (QUAL Analysis 3).

4.1.2 Module developers: Lesson planning and critical reflection

4. Regarding important areas of lesson planning, module developer 4 viewed that activities were given in module for critical analysis of previous lesson planning skill and template of lesson planning were also included. Areas of SLOs, introduction, development, activities, assessment, feedback from students, homework and assignments were focused in module. Module developer 5 said that there was a focus on SLOs and activities. As New National Curriculum is based on SLOs, and the School Education Department wants to promote activity based teaching, these areas were focused in lesson

planning. Other areas like concept development, assessment, feedback, activity based and creative home work were also focused (QUAL Analysis 4).

5. Regarding the analysis of lesson planning skill, module developer 3 viewed that individual and group activities were proposed for novice teachers to analyze their lesson planning skill. Novice teachers had to present lesson plan in groups and class. With the help of peer review and group discussion, they had to analyze their lesson planning skill. Module developer 1 said that an environment of group discussion was proposed and individual and group activities were given in module for critical analysis of their lesson planning skill. Activities were proposed to prepare lesson plans and present model lessons in class (QUAL Analysis 5).
6. Regarding comparison of previous lesson planning skill of novice teachers with newly introduced lesson planning skills, module developer 10 viewed that novice teachers were introduced with latest and activity based lesson planning skills through role plays and presentations in class. Novice teachers had to compare it with their previously held assumptions in this regard (QUAL Analysis 6).

4.1.3 Module developers: Lesson planning and rational discourse

7. Regarding the enhancement of lesson planning skill, module developer 2 reported that novice teachers had to prepare lesson plans on the assigned SLOs and topics. Group activities were proposed for lesson planning. Master trainers had to present model lesson .Following their pattern, novice teachers had to present model lessons in class. Module developer 8 viewed that

templates of lesson plan were provided in module. Some readymade lesson plans relating the subjects of Science, Mathematics, English, Urdu etc. were given in module. Novice teachers had to practice for preparation and deliverance of lesson plans in groups and individually (QUAL Analysis 7).

8. Regarding the strategies for practice of lesson planning module developer 6 said that novice teachers had to present lesson plans given in module in groups and in class. They had to prepare lesson plans on assigned SLOs and topics individually and in groups. They had to present these lesson plans in class. Module developer 9 viewed that extensive lesson planning by novice teachers was proposed in modules through different activities. Novice teachers had to develop lesson related activities and material. Lesson plan related home assignments were also proposed in modules. Novice teachers had to present these lesson plans in class through Microsoft Power Point presentations and novice teachers had to prepare assignments in this regard also (QUAL Analysis 8).
9. Regarding the development of low cost material, module developer 7 explained that SLOs and topic related activities were proposed in modules and novice teachers had to prepare low cost learning material under the guidance of master trainers. It was proposed to establish display corner for it. Module developer 2 viewed that activities were given in modules to prepare low cost material. Group and class activities were proposed for preparation of material with mutual cooperation. Every novice teachers had to prepare lesson and activity related material and he had to present and display it in class.

Environment of competition was proposed so that novice teachers may be motivated to develop learning material. It was expected from novice teachers that their views towards lesson planning will be changed and it will learner centered (QUAL Analysis 9).

4.1.4 Module developers: Teaching methodology and disorienting dilemma

10. Regarding already possessed teaching methodologies by novice teachers, module developer 9 said that it was expected that novice teachers are aware of lecture method, demonstration method and lecture cum demonstration method. Usually teachers read books in class and then students are dictated to write notes in notebooks which are not separate from books having no novelty. Module developer 9 explained that novice teachers were introduced with activity based teaching method, group discussion method, assignment method, project method, role play method and presentation method. During learning of new teaching methodologies, novice teachers had to analyze their competencies in the area of teaching methodologies and it was expected that they will realize the importance of new methodologies (QUAL Analysis 10).
11. Regarding differentiation of teacher-centered and learner-centered teaching methodologies, module developer 4 viewed that different teaching styles were presented for teachers. By presenting merits and demerits of teacher-centered and learner-centered teaching methodologies, novice teachers were facilitated to differentiate among methodologies (QUAL Analysis 11).

4.1.5 Module developers: Teaching methodology and critical reflection

12. Regarding comparison of traditional and modern pedagogical techniques, module developer 7 said that activities were proposed for novice teachers to present same lesson through modern and traditional methods. Module developer 1 explained that novice teachers had to analyze themselves by presenting a lesson through modern and traditional method. Master trainer had to guide them also regarding modern innovative teaching methodologies (QUAL Analysis 12).
13. Regarding analysis of effectiveness of innovative teaching methodologies, module developer 10 viewed that the same concept was to be delivered through traditional method and innovative methods .Through questioning and discussions, effectiveness of innovative teaching methodologies was to be analysed (QUAL Analysis 13).

4.1.6 Module developers: Teaching methodology and rational discourse

14. Regarding motivation of trainees for effective teaching, module developer 6 said that group activities and environment of competition was proposed for novice teachers. Critical analysis activities were proposed to analyze their teaching and to adopt new teaching methodologies. Module developer 5 explained that results of the pre-test, post-test, ranking of trainees on the basis of their participation in training, observer's observation, group discussion and peer review technique were used to motivate trainees. Certificate of participation and distinction, letter of appreciations, display of charts, models and low cost material were also source of motivation. Overall focus of

introducing innovative teaching methodologies was to bring positive changes in attitudes of Novice teachers towards teaching (QUAL Analysis 14).

15. Regarding adoption of teaching methodologies, module developer 4 explained that project method, assignment method, group method and activity based teaching method were focused for adoption. Module developer 9 clarified that teaching methodologies in which students actively participate were focused. Concept building through collaborative teaching was emphasized. Collaboration among novice teachers was promoted by assigning them joint assignments and tasks (QUAL Analysis 15).

4.1.7 Module developers: Classroom practices and disorienting dilemma

16. Regarding new instructional practices module developer 5 explained that question answer technique, interaction with students, activities, assessment, activity based homework and classroom management were introduced in modules. Module developer 8 explained that active participation of learner, positive learning environment, motivation and reinforcement were introduced in modules. It was assumed that such practices were not carrying out and there was disorder in class room management and environment in earlier practices. (QUAL Analysis 16).
17. Regarding facilitation of novice teachers to resolve conflicts about classroom practices module developer 3 pointed out that master trainers have to facilitate in resolving these conflicts through questioning answering and discussions. By presenting prevailing classroom practices and introduced classroom practices, master trainers had to facilitate novice teachers in this regard.

Module developer 4 viewed that three strategies were proposed to resolve conflicts in the area of classroom practices: self analysis, awareness with new practices, process to adopt new practices (QUAL Analysis 17).

4.1.8 Module developers: Classroom practices and critical reflection

18. Regarding adoption of classroom practices in real classroom situation, module developer 1 explained that interaction with student, focus on activities, development of low cost material, classroom management, assessment, motivation and creative homework were focused. Module developer 10 clarified that selection of content on the basis of SLOs, selection of activities, interaction with students on basis of activities and discussion, activity demanded classroom management, assessment, feedback and creativity based home work were focused in modules. Prevailing situation of classroom practices were also presented for teachers to compare it with latest practices (QUAL Analysis 18).
19. Regarding creation of conducive learning environment, module developer 2 viewed that motivation, competition and discussion technique were used for this purpose. Module developer 7 explained that well planned master trainers, planned lesson presentations, purposeful activities, suitable classroom management, motivation and reinforcement technique were proposed to create conducive learning environment (QUAL Analysis 19).

4.1.9 Module developers: Classroom practices and rational discourse

20. Regarding execution of classroom practices, module developer 3 pointed out that classroom activities were proposed on the basis of classroom practices.

Student had to design and practice classroom practices under the guidance of master trainers. Module developer 6 explained that classroom related activities like role play, display of models and charts, material development were proposed for execution of classroom practices. On the basis of practice of these activities, it was expected that novice teachers' belief will change n this regard and it will according to demand of new era. (QUAL Analysis 20).

21. Regarding expected outcomes of professional development program, module developer 6 explained that arrival of novice teachers with prepared lesson in class was anticipated .It was expected that novice teachers will promote conceptual learning by active participation of learners in class. They will practice effective teaching methodology and will become a source of quality education. Module developer 9 pointed out that well rounded active novice teachers equipped with modern teaching methodologies and lesson planning skill was expected in the result of this professional development program (QUAL Analysis 21).

4.2 Qualitative Analysis of data of Master Trainers in context of Transformative Learning

For the analysis of qualitative data collected through interview schedules from 35 master trainers, data were organized, coding was made to categorize the data and emerging themes were interrelated and interpreted to evaluate professional development of novice teachers in context of Transformational Learning.

The analysis of qualitative data collected from master trainers is given here. Following themes were emerged from analysis of qualitative data.

Table 4.2

Qualitative Analysis of Master Trainers Interview

Themes	Categories	Codes
Lesson Planning	1. Disorienting Dilemma 2. Critical Reflection 3. Rational Discourse	SLOs Activities Low cost material Assessment Development Homework assignments Project
Teaching Methodology	1. Disorienting Dilemma 2. Critical Reflection 3. Rational Discourse	Traditional methodologies Modern methodologies Peer review Group activities Presentations Activity-based methods Learner-centered methods
Classroom Practices	1. Disorienting Dilemma 2. Critical Reflection 3. Rational Discourse	Interaction with students Question answer Brainstorming Motivation Classroom management Reinforcement
Outcomes	1. Lesson Planning 2. Teaching Methodology 3. Classroom Practices	Activity-based Learner-centered Innovative Effective

Table 4.2 showed that transformation occurred among novice teachers in the areas of lesson planning, teaching methodology and classroom practices. Evidence of disorienting dilemma, critical refection and rational discourse were reported in this regard. Novice teachers transformed their lesson planning from content based to SLO based and activity-based. Novice teachers strengthened their lesson planning skills through production of low cost material, practicing assessment techniques, activity-based home work, related assignments and projects.

Transformation occurred among novice teachers in the area of teaching methodologies by following process of disorienting dilemma, critical refection and rational discourse. Novice teachers transformed their teaching methodology from tradition to modern by involving themselves in peer review and group discussion. They strengthened their teaching methodologies through presentations. Novice teachers adopted activity-based and learner-centered teaching methodologies.

Novice teachers adopted innovative classroom practices like interaction with students, use of question answer techniques, brainstorming, motivation, classroom management and reinforcement. Novice teachers transformed traditional classroom practices to innovative classroom practices by involving themselves in the process of disorienting dilemma, critical reflection and rational discourse.

Table shows that outcome of professional development program was transformation among novice teachers in the area of lesson planning and teaching methodology and they adopted activity-based and learner-centered teaching lesson planning and teaching methodology. Novice teachers also adopted innovative and effective classroom practices.

4.2.1 Master trainers: Lesson planning and disorienting dilemma

1. Regarding objectives of professional development program, MT 10 said that the objectives of this professional development program were to get newly inducted teachers acquainted with culture of department and pedagogy in real practice. He added that the main objective of this professional development program was to convey information of modern tools of teaching to novice teachers.MT 33 said that main objective of professional development is to enhance professional abilities of teachers so that they may serve in better way.MT 5 said that the objectives of this professional development program was to make teaching student-centered and activity based. Focus was on lesson planning, teaching methodologies, classroom practices and Government initiatives in the field of Education (QUAL Analysis 22).
2. Regarding previous experiences of novice teachers regarding lesson planning, MT 17 viewed that it was expected that novice teachers had conventional view in this regard which was based on objectives and contents while New National Curriculum is based on SLOs and focus is given on activities. Previous lesson planning had less focus on activities and interaction with students. Through modules, Novice teachers were introduced with SLOs based lesson planning. In these modules, concept building was strengthened by enhancing interaction of teacher with students through activities. Novice teachers transformed objective based and content based lesson planning to SLO based and activity based lesson planning (QUAL Analysis 23).

3. MT 11 explained that novice teachers were guided to resolve the conflicts among previous held lesson planning skills and newly introduced lesson planning skills by realizing them that SLO based lesson planning is need of time. MT 20 viewed that novice teachers were realized that activity based lesson planning is professional demand. MT 20 viewed that novice teachers were realized that SLOs based lesson planning will help them in future to strengthen their professional skills (QUAL Analysis 24).

4.2.2 Master trainers: Lesson planning and critical reflection

4. Regarding important areas of the lesson planning, MT 12 explained that important and focused area of lesson planning was to link the topic to previous topic by making some questions. There was an emphasis on introductory activities, development activities and assessment activities. MT 9 viewed that focus in lesson planning was on SLOs, activities and group discussion in class. SOLO taxonomy based assessment was also focused as an important area.MT 18 viewed that important areas of lesson planning were SLOs, brain storming activities, SLOs related activities , assessment activities and novice teachers transformed themselves in this regard (QUAL Analysis 25).
5. Regarding analysis of lesson planning skill, MT 33 said that individual and group activities were presented for critical analysis of novice teachers' lesson planning skill. MT 10 expressed that novice teachers prepared lesson plan and presented model lessons in class and their performance was rated by their fellows. An environment of competition also facilitated to analyze their

performance. MT 13 viewed that with the help of peer review and group discussion, novice teachers analyzed their lesson planning skill (QUAL Analysis 26).

6. Regarding comparison of previous lesson planning skill of novice teachers with newly introduced lesson planning skills, MT 21 viewed that main focus in lesson planning was activity. Novice teachers were introduced with latest and activity based lesson planning skills through role plays and presentations in class. Novice teachers compared it with their previously held assumptions. Through discussion it was realized that active participation of learner is necessary in teaching learning process. (QUAL Analysis 27).

4.2.3 Master trainers: Lesson planning and rational discourse

7. Regarding enhancement of lesson planning skills, MT 1 explained that development of low cost materials and examples from daily life routine were helpful for effective teaching. MT 35 added to it that performance of group activities, use of examples from environment and daily life examples enhanced lesson planning skills during the training. MT 22 explained that practical and activity based work, brainstorming and different assessment methodologies were adopted to enhance lesson planning skill. MT 10 said that the practice of motivating, interactive method, discussion method, role play and project method were adopted for improvement in lesson planning skills. Novice teachers worked jointly on lesson planning in groups, prepared lesson plans and presented in class (QUAL Analysis 28).

8. Regarding extensive practice of lesson planning, MT 2 explained that extensive practice of lesson planning was performed by novice teachers with the help of model lessons given in modules individually & collectively.MT 11 added that well prepared presentation of lesson planning was done by novice teachers. These presentations were presented individually and in group form. These presentations helped novice teachers to transform their lesson planning.MT 5 added that practical work of novice teachers in classroom and lesson plan related home assignments strengthened their lesson planning skill. Novice teachers were also involved in model making, creating ideas, development of low cost material and use of multimedia (QUAL Analysis 29).
9. Regarding development of low cost material, MT 14 explained that in the development of low cost material, novice teachers adopted techniques of innovative ideas and sharing and usage of available materials. To design and develop lesson plan related low cost material, they designed lesson plans on the basis of materials available in school and environment. MT 7 added that practices of group and peer discussion were adapted to design and develop low cost material. In this way, novice teachers cooperated one another.MT 18 added that novice teachers designed and developed low cost material from daily used things like juice packs, tins pack and mud through mutual cooperation. Low cost material was exhibited by trainees in well manner. Teacher's active role in lesson planning and novelty in ideas was observed among novice teachers in this regard (QUAL Analysis 30).

4.2.4 Master trainers: Teaching methodology and disorienting dilemma

10. Regarding already possessed teaching methodologies by novice teachers, MT 11 narrated that novice teachers were aware of lecture method, demonstration method, storytelling method, book reading method and lecture cum demonstration method. Module developer 18 explained that novice teachers were introduced with activity based teaching method, group discussion method, assignment method, project method, role play method and presentation method. Novice teachers were given democratic and collaborative environment to strengthen their teaching methodology. Novice teachers felt that they are moving towards betterment while going through these new methodologies (QUAL Analysis 31).
11. Regarding differentiation of teacher-centered and learner-centered teaching methodologies, MT 13 viewed that different teaching styles and teaching methods were presented for teachers. Every teaching method has its merits and demerits. Novice teachers were facilitated to differentiate among teacher-centered and learner-centered teaching methodologies by presenting these methods practically. Analysis of output of different teaching methods also facilitated novice teachers to adopt learner-centered teaching methodology and in this way novice teachers adopted learner-centered teaching methodology (QUAL Analysis 32).

4.2.5 Master trainers: Teaching methodology and critical reflection

12. Regarding the comparison of modern and traditional teaching methodologies, MT 21 explained that these methodologies were presented practically in

training. During comparison of traditional and modern teaching methodologies, modern techniques were found most powerful rather than old techniques.MT 17 viewed that modern teaching methodologies were found most suitable for modern classrooms.MT 30 viewed that both modern and traditional methodologies were practiced and modern teaching methodologies were found most suitable (QUAL Analysis 33).

13. Regarding analysis of effectiveness of innovative teaching methodologies, MT 3 viewed that efficacy of any method decides its effectiveness .He added that same concept was delivered to novice teachers through traditional method and innovative methods .Through discussion , advantages and disadvantages of these teaching methodologies were assessed. Such type of open discussions facilitated to analyze the effectiveness of innovative teaching methodologies (QUAL Analysis 34).

4.2.6 Master trainers: Teaching methodology and rational discourse

14. Regarding motivation of novice teachers, MT1 explained that motivational techniques like appreciation and creation of competitive environment were adopted for effective teaching. MT 7 added that the strategies of project method and display of assignment and achievements also motivated novice teachers. MT 11 added that the strategy of involving students in activities was adopted to strengthen instructional skills of the trainees. For the improvement in teaching, collaborative technique was used. MT 34 said that directions about SLOs based teaching were followed by trainees.MT 3 added that novice teachers always accepted the directions for new teaching techniques. MT 7

added that novice teachers' attitude towards innovative teaching methodology was positive (QUAL Analysis 35).

15. Regarding adoption of teaching methodologies, MT 13 viewed that activity based and group discussion teaching methodologies were emphasized for adoption. MT 9 explained that student-centered methodologies were emphasized for adoption. MT 31 explained that a visible change occurred in pedagogical skill of novice teachers and they transformed their teaching methodology. MT 8 added that inquiry based teaching methodology and group discussion teaching methodologies were focused. Regarding adoption of teaching methodology, MT 7 viewed that project method and presentation method were emphasized for novice teachers.MT 3 added that interactive technique of teaching methodology was focused for novice teachers. MT 29 added that activity base teaching methodologies and collaborative teaching methodologies were focused for adoption. Collaborative teaching was promoted through discussions, projects and collective assignments. Motivational techniques of appreciation encouraged the novice teachers and enhanced their performance (QUAL Analysis 36).

4.2.7 Master trainers: Classroom practices and disorienting dilemma

16. Regarding introduction of classroom practices, MT 25 said that innovative classroom practices like low cost learning material ,presentations through multimedia, model making ,chart making and active interaction with students were presented .MT 35 added that question answer technique, interaction with students, activities ,assessment, activity based homework, classroom

management ,active participation of learner, motivation ,reinforcement and positive learning environment were introduced . MT 17 narrated that earlier classroom practices like previous way of dealing of teachers with students and parents, less participation of learners, less focus on concept building, old styles of class room management and class environment, teacher's authoritative behavior ,no novelty ,no creativity and use of corporal punishment as earlier practices were also discussed (QUAL Analysis 37).

17. Regarding facilitation of novice teachers to resolve conflicts about classroom practices, MT 18 explained that novice teachers were facilitated to resolve conflicts about classroom practices by realizing them the importance of innovative classroom practices. Master trainers facilitated to resolve these conflicts through discussions and by answering novice teachers' queries regarding classroom practices. MT 24 added that master trainers presented both prevailing classroom practices and innovative classroom practices. Master trainers facilitated novice teachers in resolving their conflicts and motivated them to adopt new practices (QUAL Analysis 38).

4.2.8 Master trainers: Classroom practices and critical reflection

18. Regarding adoption of classroom practices in real classroom situation, MT11 explained that classroom practices like interaction with students, assessment, motivation and creative homework were focused. MT17 added that learning activities, development of low cost material and classroom management were focused for adoption. MT 3 explained that presentations through multimedia, development and display of creative work by learners, activity based home

work, implementations of SLO based Taaleemi calendar were emphasized for adoption. MT 18 explained that previous situation of classroom practices were also presented for teachers to compare it with latest practices. This comparison was helpful for novice teachers to make analysis of utility of innovative practices (QUAL Analysis 39).

4.2.9 Master trainers: Classroom practices and rational discourse

19. Regarding creation of conducive learning environment, MT 26 explained that modern styles of teaching , group discussion and involvement of learners in class were proposed to create environment conducive to learning.MT 14 viewed that for conducive environment of learning, question answer technique, activities and students participation strategies were adopted.MT 23 added that strategies for creating environment conducive to learning, friendly but respectful attitude, full participation from participants and good environment were provided to novice teachers and these factor led novice teachers towards transformation (QUAL Analysis 40).
20. Regarding proposed activities for classroom practices, MT 29 explained that discussion and interaction with trainees were proposed for execution of classroom practices. Motivational techniques were also proposed for enhancement of classroom practice. MT 19 added that student-centered work was proposed for execution of classroom practice.MT 14 added that indoor and outdoor curricular activities were suggested for execution of class room practices. MT 24 added that activity based learning and discussion were proposed for classroom practices.MT 20 added that role play, activity based

learning, inquiry based learning and problem solving methods also remained helpful to bring changes in beliefs of novice teachers regarding classroom practices.MT 17 added that group work and impressive remarks by mater trainers remained helpful in transforming beliefs of novice teachers regarding classroom practices (QUAL Analysis 41).

21. Regarding expected outcomes of professional development program, MT 19 explained that expected outcome from novice teachers was the promotion of quality education in the result of professional development program.MT 18 explained that friendly learning environment on the basis of use of activities and modern teaching technologies were expected from novice teachers in the result of professional development program.MT 24 added that expected outcomes from novice teachers were conceptual teaching and effective learning (QUAL Analysis 42).

4.3 Quantitative Data Analysis

Researcher used a questionnaire based on five point Likert scale; Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (DA), Strongly Disagree (SDA) to evaluate the professional development of novice teachers in the context of Transformative Learning. A self developed observation checklist based on 3 point Guttman scale; Yes, To Some Extent, No was used to find out transformation among novice teachers by observing them in classrooms.

Following point value was assigned to responses of positive statement of questionnaire:

SA=5, A=4, UD=3, DA=2, SDA=1.For negative statement of questionnaire, point value was reversed that was: SA=1, A=2, UD=3, DA=4, SDA=5.Responses of observational checklist were assigned these values: Yes=3. To some Extent=2, No=1. The statistical technique, one way ANOVA and an independent sample *t* test at significance level of 0.05was used to analyze the data. The analysis and interpretation of data were regarding differences.

Before running ANOVA and an independent sample *t* test, assumptions were tested and descriptive statistics were revealed. The analysis of data has been presented in the form of tables.

4.3.1 Descriptive statistics of questionnaire data: Total professional development scores

Table 4.3

Descriptive statistics: Total professional development scores

Total Scores	N	Min.	Max	Mean	SD	Skewness	Kurtosis
Lesson Plan	933	44.0	70	61.3290	4.4963	-.434	.168
Teaching methodology	933	48.0	85	74.5884	6.0493	-.437	.464
Classroom Practice	933	56.0	95	84.6227	6.6202	-.572	.311

Table 4.3 of descriptive statistics showed that total lesson plan scores (M=61.3290, SD=4.49630, Min= 44, Max=70), teaching methodology scores

(M=74.5884, SD=6.04933, Min= 48, Max=85), total classroom practices scores (M=84.6227, SD=6.62023, Min= 56, Max=95) has skewness and kurtosis ranging between -2 to +2.This showed that the data were normally distributed.

Mean score value of lesson planning revealed that transformation occurred among novice teachers in the areas of planning activities, using motivational techniques, focusing on SLOs, individual differences, parts of lesson and clarity of students' concepts.

Mean score value of teaching methodology revealed that transformation occurred among novice teachers in the areas of using learner centered teaching methodology, using AV aids, using teaching methodology according to demand of lesson, using technique of peer review and group discussion.

Mean score value of classroom practices revealed that transformation occurred among novice teachers in the areas of interaction with students, creating conducive learning environment, building confidence of learners, providing feedback to students, assigning homework and using effective assessing techniques.

4.3.2 Inferential statistics of questionnaire data: Total professional development scores

Inferential statistics checked whether the hypotheses were accepted or not.

4.3.2.1 *Testing null hypothesis 1 with questionnaire data*

The first hypothesis stated that there is no significant difference in the mean scores of novice Elementary, Senior Elementary and Secondary School Educators regarding professional development of lesson planning skills in context of

Transformative Learning. For testing this hypothesis, one way ANOVA was used at significance level of 0.05.

Before running ANOVA, assumptions were tested.

The first assumption was related to univariate normality. Table 4.3 showed that the values of skewness and kurtosis lie between -2 to +2.This showed that the data were normally distributed. The second assumption states that the independent observation should be applied for the data collection. In this study, personal observation was carried out. So the second assumption was satisfied. Third assumption is related to equivalence of variance. For this Levene's test was applied.

Table 4.4

Levene's Test, Dependent Variable: Total Lesson Plan Scores

F	***df_1***	***df_2***	***P***
2.085	2	930	.125

As *p* value is greater than .05 so the assumption was fulfilled. As all the assumptions were satisfied so one way ANOVA was run.

Table 4.5

Total Lesson Plan scores w.r.t. Designation of Novice Teachers

	df	***F***	***p***
Between Groups	2	.734	.480
Within Groups	930		
Total	932		

Table 4.5 showed that there is no significant difference in the mean scores of novice Elementary, Senior Elementary and Secondary School Educators regarding professional development of lesson planning skills in context of Transformative Learning (F (2,930)=.734, p=.480), (Quan Analysis 1). Data analysis showed that novice Elementary, Senior Elementary and Secondary School Educators benefitted equally from professional development program in the area of lesson planning skills in context of Transformative Learning and identical transformation occurred among Elementary, Senior Elementary and Secondary School Educators in this regard. It is also particular to mention that school education department has provided a set of lesson plan modules to all schools for professional support of teachers. These modules are also supporting novice teachers. It is mandatory for teachers to follow these lesson plans. Gibs and Coffey (2004) has also given positive result of professional development program of teachers.

4.3.2.2 *Testing null hypothesis 2 with questionnaire data*

Null hypothesis stated that there is no significant difference in the mean scores of Elementary, Senior Elementary and Secondary School Educators regarding professional development of classroom practices in context of Transformative Learning.

For testing this hypothesis, one way ANOVA was used at significance level of 0.05.

Before running ANOVA, assumptions were tested.

The first assumption is related to univariate normality. Table 4.3 showed that the values of skewness and kurtosis lie between -2 to +2.This showed that the data were normally distributed. The second assumption states that the independent

observation should be applied for the data collection. In this study, personal observation was carried out. So the second assumption was satisfied. Third assumption is related to equivalence of variance so for this, Levene's test was applied.

Table 4.6

Levene's Test, Dependent Variable: Total Classroom Practice Score

F	df_1	df_2	P
2.621	2	930	.073

As *p* value is greater than .050 so the assumption was fulfilled. As all the assumptions were fulfilled so one way ANOVA was run.

Table 4.7

Total Classroom Practice Score w.r.t. Designation of Novice Teachers

	df	*F*	*p*
Between Groups	2	5.741	.003
Within Groups	930		
Total	932		

Table 4.7 showed that there is significant difference in the mean scores of novice Elementary, Senior Elementary and Secondary School Educators regarding professional development of classroom practices in context of Transformative Learning (F (2,930)= 5.741,p=.003).As there was significant difference between groups so Post Hoc Tukey Test was applied.

Table 4.8

Analysis of Total Classroom Practice Score with Tukey HSD

Designation	**Designation**	**M**	***P***
ESE	SESE	85.243	.039
	SSE		.011
SESE	ESE	M=84.0871	.039
	SSE		.475
SSE	ESE	M=83.236	.011
	SESE		.475

Table 4.8 showed that there was a significant difference in the mean scores of ESEs (M=85.243) and SESEs (M=84.0871) regarding classroom practices (p=0.39). Moreover there was a significant difference in the mean scores of ESEs (M=85.243) and SSEs (M=83.236), (p=0.01).But there was no significant difference in the mean scores of SESEs (M=84.0871) and SSEs (M=83.236), (p=.475), (Quan Analysis 2). ESEs transformed better themselves than SESEs and SSEs in the area of classroom practices. Classroom practices help teachers for performing activities and creating positive classroom environment. Master trainers needs to focus each and every participant while imparting trainings. Better performance of novice Elementary School Educators than Senior Elementary and Secondary School Educators regarding professional development of classroom practices in context of Transformative Learning shows that continuous professional development support by DTEs was positively affecting the efficiency of Elementary School Educators. Gao and Wang

(2014) has also concluded that different teaching experiences shape the teaching practices in different ways.

4.3.2.3 *Testing null hypothesis 3 with questionnaire data*

Null hypothesis stated that there is no significant difference in the mean scores of novice Elementary, Senior Elementary and Secondary School Educators regarding professional development of teaching methodology in context of Transformative Learning.

For testing this hypothesis, one Way ANOVA was used at significance level of 0.05.

Before running ANOVA, assumptions were tested.

The first assumption was related to univariate normality.

Table 4.3 showed that the values of skewness and kurtosis lie between -2 to +2. This showed that the data were normally distributed. The second assumption state that the independent observation should be applied for the data collection. In this study, personal observation was carried out. So the second assumption was fulfilled. Third assumption is related to equivalence of variance. For this, Levene's test was applied.

Table 4.9

Levene's Test, Dependent Variable: Total Teaching Method Scores

F	***df_1***	***df_2***	***P***
.099	2	930	.905

As *p* value is greater than .050 so the assumption was fulfilled. As all the assumptions were fulfilled so one way ANOVA was run.

Table 4.10

Total Teaching Methodology Scores w.r.t. Designation of Novice Teachers

	df	***F***	***P***
Between Groups	2	.600	.549
Within Groups	930		
Total	932		

Table 4.10 showed that there is no significant difference in the mean scores of novice Elementary, Senior Elementary and Secondary School Educators regarding professional development of teaching methodology in context of Transformative Learning (F (2,930)=.600,p=.549), (Quan Analysis 3).Innovative teaching methodologies brings innovation in classroom and make teaching more useful and interesting. Data analysis showed that novice Elementary, Senior Elementary and Secondary School Educators benefitted equally from professional development program in the area of teaching methodology in context of Transformative Learning and identical transformation occurred among novice teachers in this regard. It has been earlier mentioned that school education department has provided modules of lesson plan to all schools for professional support of teachers. These lesson plan modules are also supporting novice teachers in the area of teaching methodology. It was also asserted by Kasl and Elias (2000) that innovative teaching methodologies and group activities enabled Transformative Learning.

4.3.2.4 *Descriptive statistics of questionnaire data related to total lesson plan scores and academic qualification*

Table 4.11

Teachers' Academic Qualification: Total Lesson Plan Scores

Academic Qualification	Mean	Std. Deviation	N
Bachelor	61.8116	4.32097	345
Master	61.0564	4.60825	532
M. Phil.	60.9464	4.29554	56
Total	61.3290	4.49630	933

The analysis of descriptive statistics related to academic qualification and total lesson plan scores showed that bachelor degree holders (M=61.81, SD=4.32, Min= 44, N=345), master degree holders (M=61.05, SD=4.61, N=532), M. Phil. degree holders (M=61.32, SD=4.496, N=56) had slight differences in their mean scores.

4.3.2.5 *Testing null hypothesis 4 with questionnaire data*

Null hypothesis stated that there is no significant difference in the mean scores of lesson planning skills in context of Transformative Learning with respect to academic qualification of novice teachers.

For testing this hypothesis, one Way ANOVA was used at significance level of 0.05.Before running ANOVA, assumptions were tested.

The first assumption is related to univariate normality. Table 4.3 showed that the values of skewness and kurtosis lie between -2 to +2. This showed that the data were normally distributed. The second assumption state that the independent observation should be applied for the data collection. In this study, personal

observation was carried out. So the second assumption was fulfilled. Third assumption is related to equivalence of variance. For this, Levene's test was applied.

Table 4.12

Levene's Test, Dependent Variable: Total lesson plan Scores

F	***df_1***	***df_2***	***P***
1.324	2	930	.267

As *p* value is greater than .050 so the assumption was fulfilled. As all the assumptions were fulfilled so one way ANOVA was run.

Table 4.13

ANOVA of Total Lesson Plan Scores w.r.t. Academic qualification

	Df	***F***	***P***
Between Groups	2	3.183	.042
Within Groups	930		
Total	932		

Table 4.13 showed that there is significant difference in the mean scores of lesson planning skills in context of Transformative Learning with respect to academic qualification of novice teachers (F (2,930) = 3.183, p=.042).

As there is significant difference between groups so Post Hoc Tukey Test was applied.

Table 4.14

Multiple Comparisons of total lesson plan Scores w.r.t. academic qualification with Tuky HSD

Academic Qualification	**Academic Qualification**	***P***
Bachelor	Master	.040
	M. Phil.	.374
Master	Bachelor	.040
	M. Phil.	.983
M. Phil.	Bachelor	.374
	Master	.983

Table 4.14 showed that there was a significant difference in the mean scores of lesson planning skills of Bachelor (M=61.8116, SD=4.321) and Master degree holder novice teachers (M=61.0564, SD=4.608) (p=0.040). But there was no significant difference in the mean scores of Bachelor (M=61.8116, SD=4.321) and M. Phil. degree holder novice teachers (M=60.946, SD=4.295), (p=.374). There was also no significant difference in the mean scores of Master (M=61.0564, SD=4.608) and M. Phil. degree holder novice teachers (M=60.946,SD=4.295), (p=.983), (Quan Analysis 4). Bachelor degree holders teach at primary level and they were being provided professional support by District Teacher Educators. It was the effect of continuous professional development support of DTEs that bachelor degree holder Elementary School Educators transformed themselves better than master degree holder novice teachers in the area of lesson planning skills.

4.3.2.5 *Testing null hypothesis 5 with questionnaire data*

Null hypothesis stated that there is no significant difference in the mean scores of classroom practices in context of Transformative Learning with respect to academic qualification of novice teachers.

For testing this hypothesis, one Way ANOVA was used at significance level of 0.05.Before running ANOVA, assumptions were tested.

The first assumption is related to univariate normality. Table 4.3 showed that the values of skewness and kurtosis lie between -2 to +2. This showed that the data were normally distributed. The second assumption states that the independent observation should be applied for the data collection. In this study, personal observation was carried out. So the second assumption was fulfilled. Third assumption is related to equivalence of variance so for this, Levene's test was applied.

Table 4.15

Levene's Test, Dependent Variable: Total classroom practices Scores

F	***df_1***	***df_2***	***P***
3.036	2	930	.067

As *p* value is greater than .050 so the assumption was fulfilled. As all the assumptions were fulfilled so ne way ANOVA was run.

Table 4.16

Total Classroom Practices Scores w.r.t Academic Qualification

	df	*F*	*P*
Between Groups	2	8.343	.000
Within Groups	930		
Total	932		

Table 4.16 showed that there is significant difference in the mean scores of classroom practices in context of Transformative Learning with respect to academic qualification of novice teachers (F (2,930) = 8.343, p=.000).

As there is significant difference between groups so Post Hoc Tukey Test was applied.

Table 4.17

Multiple Comparisons of Total Classroom Practices Scores w.r.t. Academic Qualification with Tukey HSD

Academic Qualification	**Academic Qualification**	***P***
Bachelor	Master	.002
	M. Phil.	.006
Master	Bachelor	.002
	M. Phil.	.306
M. Phil.	Bachelor	.006
	Master	.306

Table 4.17 showed that there was a significant difference in the mean scores of classroom practices of Bachelor (M=61.8116, SD=4.321) and Master degree holder novice teachers (M=61.0564, SD=4.608), (*p*=0.002). There was also significant difference in the mean scores of Bachelor (M=61.8116, SD=4.321) and M Phil degree holder novice teachers (M=60.946, SD=4.295), (*p*=.006). There was no significant difference in the mean scores of Master (M=61.0564, SD=4.608) and M. Phil. degree holder novice teachers (M=60.946,SD=4.295), (*p*=.306), (Quan Analysis 5). Classroom practices motivate learners and give better output. Bachelor degree holder novice teachers transformed themselves better in the area of classroom practices. It has been discussed earlier that bachelor degree holder teachers teach at primary level and they were being provided professional support by District Teacher Educators. It was the mentoring effect of continuous professional development support of DTEs that primary school teachers were performing better comparatively.

4.3.2.6 *Testing null hypothesis 6 with questionnaire data*

Null hypothesis stated that there is no significant difference in the mean scores of teaching methodology in context of Transformative Learning with respect to academic qualification of novice teachers.

For testing this hypothesis, one Way ANOVA was used at significance level of 0.05.Before running ANOVA, assumptions were tested.

The first assumption is related to univariate normality. Table 4.3 showed that the values of skewness and kurtosis lie between -2 to +2. This showed that the data were normally distributed. The second assumption states that the independent observation should be applied for the data collection. In this study, personal

observation was carried out. So the second assumption was fulfilled. Third assumption is related to equivalence of variance so for this, Levene's test was applied.

Table 4.18

Levene's Test, Dependent Variable: Total Teaching Methodology Scores

F	df_1	df_2	*p*
1.470	2	930	.230

As *p* value is greater than .050 so the assumption was fulfilled. As all the assumptions were fulfilled so one way ANOVA was run.

Table 4.19

Total Teaching Methodology Scores w.r.t. Academic Qualification

	df	*F*	*p*
Between Groups	2	2.449	.087
Within Groups	930		
Total	932		

Table 4.19 showed that there is no significant difference in the mean scores of teaching methodology in context of Transformative Learning with respect to academic qualification of novice teachers (F (2,930) = 2.449,p=.087), (Quan Analysis 6).

Teaching methodologies play vital role in teaching learning process. Use of better and latest teaching methodologies enhance the capacity of teachers. Data

analysis showed that novice teachers having different qualification benefitted equally from professional development program in the area of teaching methodology in context of Transformative Learning and identical transformation occurred among novice teachers in this regard. It may also be concluded that professional development program equally addressed the needs of novice teachers having different qualification in the area of teaching methodology.

Table 4.20

Descriptive statistics of Questionnaire Data related to Total Lesson Plan Scores and Professional Qualification

Professional Qualification	N	Mean	Std. Deviation
B. Ed.	882	61.2891	4.41816
M. Ed.	51	62.0196	5.69031

The analysis of descriptive statistics related to professional qualification and total lesson plan scores showed that B. Ed. degree holder novice teachers (M=61.28, SD=4.41, N=882) and M. Ed. degree holder novice teachers (M=62.01, SD=5.69, N=51) had differences in their mean scores. M. Ed. degree holder novice teachers had slight better mean scores than B. Ed. degree holder novice teachers.

4.3.2.7 *Testing null hypothesis 7 with questionnaire data*

There is no significant difference in the mean scores of lesson planning skills in context of Transformative Learning with respect to professional qualification of novice teachers.

For testing this hypothesis, an independent sample *t* test was used at significance level of 0.05.

Table 4.21

Total Lesson Plan Scores w.r.t. Professional Qualification

	Levene's Test for Equality of Variances		**Independent sample t-test**		
	F	**Sig.**	***T***	***Df***	***P***
Equal variances assumed	5.995	.015	-1.128	931	.260
Equal variances not assumed			-.901	53.5	.372

Table 4.21 of Levene's Test for Equality showed that equal variance was not assumed moreover there was no significant difference in the mean scores of lesson planning skills in context of Transformative Learning with respect to professional qualification i.e. B. Ed. (M= 61.291,SD=4.41816,) & M. Ed. (M= 62.0196,SD=5.69031) of novice teachers (t (53.54) = -.901, p=.372), (Quan Analysis 7).It showed that M. Ed. and B. Ed. degree holder novice teachers equally benefitted in the area of lesson planning skills in context of Transformative Learning with respect to professional qualification and the same transformation occurred among novice teachers in this regard. It may also be concluded that professional development program equally addressed the needs of novice teachers having different professional qualification in the area of lesson planning skills.

Table 4.22

Group Statistics of Total Classroom Practices w.r.t. Professional Qualification

Professional Qualification	N	Mean	Std. Deviation
B. Ed.	882	84.4932	6.58675
M. Ed.	51	86.8627	6.86154

The analysis of descriptive statistics related to professional qualification and total classroom practices scores showed that B. Ed. degree holder novice teachers (M=84.49, SD=6.586, N=882) and M. Ed. degree holder novice teachers (M=86.86, SD=6.861, N=51) had differences in their mean scores. M. Ed. degree holder novice teachers had slight better mean scores than B. Ed. degree holders. This difference was a natural phenomenon. Due to higher qualification, M. Ed. qualified teachers are expected to perform better.

4.3.2.8 *Testing null hypothesis 8 with questionnaire data*

Null hypothesis stated that there is no significant difference in the mean scores of classroom practices in context of Transformative Learning with respect to professional qualification of novice teachers.

For testing this hypothesis, an independent Sample *t* Test was used at significance level of 0.05.

Table 4.23

Independent Samples Test for Total Classroom Practices w.r.t. Professional Qualification

	Levene's Test for Equality of Variances		**Independent sample t-test**		
	F	**Sig.**	***t***	***Df***	***P***
Equal variances assumed	.896	.344	-2.492	931	.013
Equal variances not assumed			-2.403	55.46	.020

Table 4.23 of Levene's Test for Equality showed that equal variances were assumed moreover it indicated that there was a significant difference in the mean scores of classroom practices in context of Transformative Learning with respect to professional qualification i.e. B. Ed. (M= 84.493, SD=6.586,) & M. Ed. (M= 86.862, SD=6.861) of novice teachers ($t(931)= -2.492$, $p=.013$), (Quan Analysis 8). M. Ed. degree holder novice teachers had slight better mean scores than B. Ed. degree holders in the area of classroom practices so it can be concluded that better transformation occurred among M. Ed. degree holder novice teachers in this regard. This difference was also a natural phenomenon. Due to higher qualification, M. Ed. qualified teachers are expected to perform better.

Table 4.24

Descriptive Statistics of Total Teaching Methodology Scores w.r.t. Professional Qualification

Professional Qualification	N	Mean	Std. Deviation
B. Ed.	882	74.47	6.007
M. Ed.	51	76.588	6.475

The analysis of descriptive statistics related to professional qualification and total teaching methodology scores showed that B. Ed. degree holder novice teachers (M=74.47, SD=6.007, N=882) and M. Ed. degree holder novice teachers (M=76.588, SD=6.475, N=51) had differences in their mean scores. M. Ed. degree holder novice teachers had slight better mean scores than B. Ed. degree holder novice teachers.

4.3.2.9 *Testing null hypothesis 9 with questionnaire data*

Null hypothesis stated that there is no significant difference in the mean scores of teaching methodology in context of Transformative Learning with respect to professional qualification of novice teachers.

For testing this hypothesis, an independent Sample *t* Test was used at significance level of 0.05.

Table 4.25

Independent Samples Test for Total Teaching Methodology Scores w.r.t. Professional Qualification

	Levene's Test for Equality of Variances		**Independent sample t-test**		
	F	**Sig.**	***t***	***Df***	***P***
Equal variances assumed	1.852	.174	-2.435	931	.015
Equal variances not assumed			-2.277	55.09	.027

Table 4.25 of Levene's Test for Equality showed that equal variances were assumed moreover it indicated that there was a significant difference in the mean scores of teaching methodologies of novice teachers with respect to professional qualification i.e. B. Ed. (M= 74.4728, SD=6.00736,) & M. Ed. (M= 76.5882, SD=6.47511) of novice teachers (t (931)= -2.435, p=.015), (Quan Analysis 9).M. Ed. degree holder novice teachers had better command over teaching methodologies so it can be concluded that better transformation occurred among M. Ed. degree holder novice teachers in this regard. Due to higher qualification, M. Ed. qualified teachers are expected to perform better in this regard. Higher professional qualification of novice teachers assisted them to transform their views in this regard.

4.3.3 Descriptive statistics of observational checklist data related to total professional development scores

Table 4.26

TPDS from observational checklist data

Mean	SD	N	Min	Max	Skewness	Kurtosis
55.67	8.322	48	40	72	.213	-1.097

The analysis of descriptive statistics related to total professional development of novice teachers showed that total professional development score (M=55.67, SD=8.322, Min= 40, Max=72) has skewness and kurtosis ranging between -2 to +2.This showed that the data were normally distributed.

4.3.4 Inferential statistics of observation checklist data related to total professional development scores

Inferential statistics checked whether the hypotheses were accepted or not.

4.3.4.1 *Testing null hypothesis 1 with observation checklist data*

The first hypothesis stated that there is no significant difference in the mean scores of Elementary, Senior Elementary and Secondary School novice teachers regarding professional development of lesson planning skills in context of Transformative Learning.

For testing this hypothesis, one Way ANOVA was used at significance level of 0.05.Before running ANOVA, assumptions were tested.

The first assumption is related to univariate normality. Table 4.26 showed that the values of skewness and kurtosis lie between -2 to +2. This showed that the data were normally distributed. The second assumption states that the independent

observation should be applied for the data collection. In this study, personal observation was carried out. So the second assumption was fulfilled. Third assumption is related to equivalence of variance so for this, Levene's test was applied.

Table 4.27

Levene's Test, Dependent Variable: Total lesson planning Scores

F	***df_1***	***df_2***	***P***
.906	2	45	.412

As *p* value is greater than .050 so the assumption was fulfilled. As all the assumptions were fulfilled so one way ANOVA was run.

Table 4.28

Total Lesson Plan Scores w.r.t. Designation of Teachers

	Df	***F***	***P***
Between Groups	2	.450	.641
Within Groups	45		
Total	47		

Table 4.28 showed that there is no significant difference in the mean scores of novice Elementary, Senior Elementary and Secondary School Educators regarding professional development of lesson planning skills in context of Transformative Learning (F (2,45)=.450,p=.641), (Quan Analysis 10).Same results were revealed from questionnaire analysis data. Data analysis showed that novice Elementary, Senior Elementary and Secondary School Educators benefitted equally from

professional development program in the area of lesson planning skills in context of Transformative Learning and same transformation occurred among novice teachers in this regard.

4.3.4.2 *Testing null hypothesis 2 with observation checklist data*

Null hypothesis stated that there is no significant difference in the mean scores of novice Elementary, Senior Elementary and Secondary School Educators regarding professional development of classroom practices in context of Transformative Learning.

For testing this hypothesis, one Way ANOVA was used at significance level of 0.05.Before running ANOVA, assumptions were tested.

The first assumption is related to univariate normality. Table 4.26 showed that the values of skewness and kurtosis lie between -2 to +2. This showed that the data were normally distributed. The second assumption states that the independent observation should be applied for the data collection. In this study, personal observation was carried out. So the second assumption was fulfilled. Third assumption is related to equivalence of variance so for that Levene's test was applied.

Table 4.29

Levene's Test, Dependent Variable: Total classroom practice

F	***df_1***	***df_2***	***P***
.084	2	45	.920

As *p* value is greater than .050 so the assumption was fulfilled. As all the assumptions were fulfilled so one way ANOVA was run.

Table 4.30

Total Classroom Practice Score w.r.t. Designation of Novice Teachers

	Df	***F***	***P***
Between Groups	2	.134	.875
Within Groups	45		
Total	47		

The above table shows that there is no significant difference in the mean scores of novice Elementary, Senior Elementary and Secondary School Educators regarding professional development of classroom practices in context of Transformative Learning (F (2,45)=.450,p=.875), (Quan Analysis 11). Questionnaire analysis data revealed that transformation among novice Elementary School Educator was better than novice Senior Elementary and Secondary School Educators regarding professional development of classroom practices in context of Transformative Learning.

4.3.4.3 *Testing null hypothesis 3 with observation checklist data*

Null hypothesis stated that there is no significant difference in the mean scores of novice Elementary, Senior Elementary and Secondary School Educators regarding professional development of teaching methodology in context of Transformative Learning.

For testing this hypothesis, one Way ANOVA was used at significance level of 0.05.Before running ANOVA, assumptions were tested.

The first assumption is related to univariate normality. Table 4.26 showed that the values of skewness and kurtosis lie between -2 to +2. This showed that the data were normally distributed. The second assumption state that the independent observation should be applied for the data collection. In this study, personal observation was carried out. So the second assumption was fulfilled. Third assumption is related to equivalence of variance for this Levene's test was applied.

Table 4.31

Levene's Test, Dependent Variable: Total Teaching Methodology Scores

F	***df_1***	***df_2***	***P***
.908	2	45	.411

As *p* value is greater than .050 so the assumption was fulfilled. As all the assumptions were fulfilled so one way ANOVA was run.

Table 4.32

Total Teaching Methodology Score w.r.t. Designation of Novice Teachers

	Df	***F***	***P***
Between Groups	2	.127	.881
Within Groups	45		
Total	47		

Table 4.32 showed that there is no significant difference in the mean scores of novice Elementary, Senior Elementary and Secondary School Educators regarding professional development of teaching methodologies in context of Transformative Learning (F (2,45)=.450,p=.881), (Quan Analysis 12).Same was revealed from

questionnaire analysis data. Quantitative data analysis showed that novice Elementary, Senior Elementary and Secondary School Educators benefitted equally from professional development program in the area of teaching methodology in context of Transformative Learning and same transformation occurred among novice teachers in this regard.

4.3.5 Descriptive statistics of observation checklist data w.r.t. professional development scores and academic qualification

Here is descriptive statistics of observation checklist data w.r.t. professional development scores and academic qualification.

Table 4.33

Descriptive Statistics of Observation Checklist Data w.r.t. Professional Development Scores and Academic Qualification

Total scores	N	Min.	Max	Mean	SD	Skewness	Kurtosis
Lesson Planning	48	8	15	11.79	1.89016	.215	-1.01
Classroom Practices	48	25	45	33.00	5.24303	.567	-.803
Teaching Methodology	48	8	15	10.87	2.38457	.115	-1.23

Table 4.33 of descriptive statistics showed that total lesson plan scores (M=11.79, SD=1.89, Min= 8, Max=15), teaching methodology scores (M=10.87, SD=2.38, Min= 7, Max=15), total classroom practices scores (M=33.0, SD=5.24, Min= 25, Max=44) has skewness and kurtosis ranging between -2 to +2.This showed

that the data were normally distributed. Mean score value of lesson planning skills, teaching methodology and classroom practices revealed that transformation occurred among novice teachers in these areas as a result of professional development program.

4.3.6 Descriptive statistics of observation checklist data w.r.t. academic qualification

Table 4.34

Teachers' Academic Qualification: Total lesson planning Scores

Academic Qualification	Mean	Std. Deviation	N
Bachelor	11.9333	1.90738	15
Master	11.6875	1.92501	32
M. Phil.	13.0000	1.92201	1
Total	11.7917	1.89016	48

The analysis of descriptive statistics related to academic qualification and total lesson plan scores showed that bachelor degree holder novice teachers (M=11.93, SD=1.907, N=15), master degree holder novice teachers (M=11.68, SD=1.92, N=32) and M. Phil. degree holder novice teachers (M=13.0, SD=1.89, N=1) had slight differences in their mean scores.

4.3.7 Inferential statistics of observation checklist data related to total lesson planning scores

Here is inferential statistics of observational checklist data related to total lesson planning scores.

4.3.7.1 *Testing null hypothesis 4 with observation data*

Null hypothesis stated that there is no significant difference in the mean scores of lesson planning skills in context of Transformative Learning with respect to academic qualification of novice teachers.

For testing this hypothesis, one Way ANOVA was used at significance level of 0.05.Before running ANOVA, assumptions were tested.

The first assumption is related to univariate normality. Table 4.33 showed that the values of skewness and kurtosis lie between -2 to +2. This showed that the data were normally distributed. The second assumption state that the independent observation should be applied for the data collection. In this study, personal observation was carried out. So the second assumption was fulfilled. Third assumption is related to equivalence of variance so for this, Levene's test was applied.

Tabe 4.35

Levene's Test, Dependent Variable: Total Lesson Planning Score

F	*df1*	*df2*	*P*
1.489	2	45	.237

As *p* value is greater than .050 so the assumption was fulfilled. As all the assumptions were fulfilled so ne way ANOVA was run.

Table 4.36

Total Lesson Planning Score w.r.t. Academic Qualification

	df	***F***	***P***
Between Groups	2	.286	.753
Within Groups	45		
Total	47		

Table 4.36 showed that there is no significant difference in the mean scores of lesson planning skills in context of Transformative Learning with respect to academic qualification of novice teachers. (F (2, 45) = .286, p=.753), (Quan Analysis 13).A slight difference was noted with questionnaire analysis data in this regard. Questionnaire data revealed that bachelor degree holder novice teachers were performing better than higher qualified teachers in the area of lesson planning and more transformation occurred among bachelor degree holder novice teachers in this regard. As bachelor degree holder teachers teach at primary level and they were being provided professional support by District Teacher Educators under the umbrella of Directorate of Staff Development so their performance was better in this regard.

4.3.7.2 *Testing null hypothesis 5 with observation data*

Null hypothesis stated that there is no significant difference in the mean scores of classroom practices in context of Transformative Learning with respect to academic qualification of novice teachers.

For testing this hypothesis, one Way ANOVA was used at significance level of 0.05.Before running ANOVA, assumptions were tested.

The first assumption is related to univariate normality. Table 4.33 showed that the values of skewness and kurtosis lie between -2 to +2. This showed that the data were normally distributed. The second assumption state that the independent observation should be applied for the data collection. In this study, personal observation was carried out. So the second assumption was fulfilled. Third assumption is related to equivalence of variance so for this Levene's test was applied.

Table 4.37

Levene's Test, Dependent Variable: Total Classroom Practices Scores

F	***df_1***	***df_2***	***P***
1.528	2	45	.228

As *p* value is greater than .050 so the assumption was fulfilled. As all the assumptions were fulfilled so one way ANOVA was run.

Table 4.38

ANOVA of Total Classroom Practices Scores w.r.t. Academic Qualification

	df	***F***	***P***
Between Groups	2	2.054	.140
Within Groups	45		
Total	47		

Table 4.38 showed that there is no significant difference in the mean scores of classroom practices in context of Transformative Learning with respect to academic qualification of novice teachers (F (2,45) = 2.054,p=.140), (Quan Analysis 14). A slight difference was noted with questionnaire analysis data in this regard. Questionnaire data revealed that bachelor degree holder novice teachers were

performing better in the area of classroom practices than master and M. Phil. degree holders and more transformation occurred among bachelor degree holder novice teachers in this regard.

4.3.7.3 *Testing null hypothesis 6 with observation data*

Null hypothesis stated that there that is no significant difference in the mean scores of teaching methodology in context of Transformative Learning with respect to academic qualification of novice teachers.

For testing this hypothesis, one Way ANOVA was used at significance level of 0.05.Before running ANOVA, assumptions were tested.

The first assumption is related to univariate normality. Table 4.33 showed that the values of skewness and kurtosis lie between -2 to +2. This showed that the data were normally distributed. The second assumption state that the independent observation should be applied for the data collection. In this study, personal observation was carried out. So the second assumption was fulfilled. Third assumption is related to equivalence of variance so for that, Levene's test was applied.

Table 4.39

Levene's Test, Dependent Variable: Total Teaching Methodology Scores

F	*df1*	*df2*	*P*
2.930	2	45	.064

As *p* value is greater than .050 so the assumption was fulfilled. As all the assumptions were fulfilled so one way ANOVA was run.

Table 4.40

Total Teaching Methodology Scores w.r.t. Academic Qualification

	df	***F***	***P***
Between Groups	2	.651	.526
Within Groups	45		
Total	47		

Table 4.40 showed that there is no significant difference in the mean scores of teaching methodologies of novice teachers with respect to academic qualification (F (2,45) = .651,p=.526), (Quan Analysis 15).Same was revealed from questionnaire analysis data. Data analysis showed that novice Elementary, Senior Elementary and Secondary School Educators benefitted equally from professional development program in the area of teaching methodology in context of Transformative Learning and same transformation occurred among novice teachers in this regard.

Table 4.41

Descriptive Statistics of Lesson Plan Scores w.r.t. Professional Qualification

Professional Qualification	**N**	**Mean**	**Std. Deviation**
B. Ed.	40	11.5750	1.81005
M. Ed.	8	12.8750	2.03101

The analysis of descriptive statistics related to professional qualification and total lesson plan scores showed that B. Ed. degree holder novice teachers (M=11.5750, SD=1.81005, N=40) and M. Ed. degree holder novice teachers

(M=12.8750, SD=2.03101, N=8) had differences in their mean scores. M. Ed. degree holder novice teachers had slight better mean scores than B. Ed. degree holders.

4.3.7.4 *Testing null hypothesis 7 with observation data*

There is no significant difference in the mean scores of lesson planning skills in context of Transformative Learning with respect to professional qualification of novice teachers.

For testing this hypothesis, an independent Sample *t* Test was used at significance level of 0.05.

Table 4.42

Independent Samples Test for Total Lesson Scores w.r.t. Professional Qualification

	Levene's Test for Equality of Variances		**Independent sample t-test**		
	F	**Sig.**	***t***	***df***	***P***
Equal variances assumed	.115	.736	-1.819	46	.075
Equal variances not assumed			-1.682	9.358	.126

Table 4.42 indicated that there was no significant difference in the mean scores of lesson planning skills in context of Transformative Learning with respect to professional qualification i.e. B. Ed. (M= 11.5750,SD=1.81005,) & M. Ed. (M= 12.8750,SD=2.03101) of novice teachers (*t* (46)= -1.819, *p*=.075), (Quan Analysis

16).Same result was revealed from questionnaire analysis data. It showed that M. Ed. and B. Ed. degree holder novice teachers equally benefitted in the area of lesson planning skills in context of Transformative Learning with respect to professional qualification and identical transformation occurred among novice teachers in this regard.

Table 4.43

Descriptive Statistics of Total Classroom Practices Scores w.r.t. Professional Qualification

Professional Qualification	N	Mean	Std. Deviation
B. Ed.	40	32.40	5.001
M. Ed.	8	36.0	5.732

The analysis of descriptive statistics related to professional qualification and total classroom practices scores showed that B. Ed. degree holder novice teachers (M=32.40, SD=5.001, N=40) and M. Ed. degree holder novice teachers (M=36.0, SD=5.732, N=8) had differences in their mean scores. M. Ed. degree holder novice teachers had slight better mean scores than B. Ed. degree holders.

4.3.7.5 *Testing null hypothesis 8 with observation data*

Null hypothesis stated that there is no significant difference in the mean scores of classroom practices in context of Transformative Learning with respect to professional qualification of novice teachers.

For testing this hypothesis, an independent Sample *t* Test was used at significance level of 0.05.

Table 4.44

Independent Samples Test for Total Classroom Practices Scores w.r.t. Professional Qualification

	Levene's Test for Equality of Variances		**Independent sample t-test**		
	F	**Sig.**	***t***	***df***	***P***
Equal variances assumed	.399	.531	-1.816	46	.076
Equal variances not assumed			-1.65	9.25	.131

Table 4.44 indicated that there was no significant difference in the mean scores of classroom practices of novice teachers with respect to professional qualification i.e. B. Ed. (M= 32.4, SD=5.001,) & M. Ed. (M= 36, SD=5.732) ($t(46)$= -1.816, p=.076), (Quan Analysis 17). While questionnaire analysis data revealed that M. Ed. degree holder novice teachers had slight better mean scores than B. Ed. degree holders in the area of classroom practices. This difference was also a natural phenomenon. Due to higher qualification, M. Ed. qualified novice teachers transformed themselves in better way.

Table 4.45

Descriptive Statistics of Total Classroom Practices Scores w.r.t. Professional Qualification

Professional Qualification	N	Mean	Std. Deviation
B. Ed.	40	10.5500	2.29771
M. Ed.	8	12.5000	2.26779

The analysis of descriptive statistics related to professional qualification and total classroom practices scores showed that B. Ed. degree holder novice teachers (M=10.55, SD=2.297, N=40) and M. Ed. degree holder novice teachers (M=12.5, SD=2.267, N=8) had differences in their mean scores. M. Ed. degree holders novice teachers had slight better mean scores than B. Ed. degree holders.

4.3.7.6 *Testing null hypothesis 9 with observational data*

Null hypothesis stated that there is no significant difference in the mean scores of teaching methodology in context of Transformative Learning with respect to professional qualification of novice teachers.

For testing this hypothesis, an independent Sample *t* Test was used at significance level of 0.05.

Table 4.46

Independent Samples Test for Total Teaching Methodology Scores w.r.t. Professional Qualification

	Levene's Test for Equality of Variances		**Independent sample t-test**		
	F	**Sig.**	***t***	***df***	***P***
Equal variances assumed	.352	.556	-2.196	46	.033
Equal variances not assumes			-2.215	10.09	.051

Table 4.46 indicated that there was a significant difference in the mean scores of teaching methodologies of novice teachers with respect to professional qualification i.e. B. Ed. (M= 10.55,SD=2.29771,) & M. Ed. (M= 12.5,SD=2.26779) (t(46)= -2.196, p=.033), (Quan Analysis 18). Same was resulted from questionnaire analysis data which revealed that more transformation occurred among novice teachers in this regard. M. Ed. degree holder novice teachers had better command over teaching methodologies. Due to higher qualification, M. Ed. qualified teachers are expected to perform better in this regard.

4.4 Summary

As the objective of professional development program was to equip novice teachers with latest teaching methodologies, classroom practices, lesson planning

skills and bring transformation in this regard so researcher analyzed in this research whether any transformation occurred among novice teachers or not. Data analysis helped researcher to find out the answers of research questions and test research hypothesis.

Analysis of lesson planning skills among novice teachers was an important feature of this study. Qualitative data revealed that novice teachers adopted lesson planning skills effectively, which were introduced by mater trainers.

Evaluation of classroom practices among novice teachers was another feature of this study. It was revealed through qualitative data that classroom practices like question answer technique, interaction with students, development of learning material, activities, assessment, activity based homework, classroom management, motivation, creative home work were adopted by novice teachers.

Evaluation of Professional development of novice teachers in area of teaching methodology was an important aspect of this study. It was revealed that a visible change occurred in pedagogical skill of novice teachers. Project method, group discussion, presentation method, activity based and collaborative methodologies were happily adopted by novice teachers.

Views of module developers and master trainers explored that modules provided activities for Transformative Learning in the areas of lesson planning skills, classroom practices and teaching methodologies.

Qualitative data gave a detailed picture of dealing research questions. Qualitative data revealed that transformation occurred among novice teachers in the areas of teaching methodology, classroom practices and lesson planning.

Quantitative data revealed that there was no significant difference in the mean scores of novice teachers regarding professional development in the areas of lesson planning skills, and teaching methodologies with respect to their designation. Elementary School Educators transformed themselves better than Senior Elementary School Educators and Secondary School Educators in context of classroom practices.

Quantitative data revealed that Bachelor degree holder novice teachers transformed themselves better than master degree holder novice teachers in the area of lesson planning and classroom practices. Bachelor degree holder novice teachers also transformed themselves better than M. Phil. degree holder novice teachers in the area of classroom practices. There was no significant difference in the mean scores of novice teachers regarding professional development in the areas of teaching methodologies with respect to their academic qualification.

Quantitative data also revealed that M. Ed. degree holder novice teachers transformed themselves better than B. Ed. degree holder novice teachers in the area of classroom practices and teaching methodologies. There was no significant difference in the mean scores of lesson planning skills of novice teachers in context of Transformative Learning with respect to their professional qualification .Above mentioned picture of data analysis showed that all objectives of this study were achieved.

Teacher Education in Sub-Saharan Africa (TESSA) offers a variety of open education resources in four different languages. TESSA is a network of teachers and teacher educators for working on improvement in classroom practices and quality of education (www.tessafrica.net).Teacher may involve learners by using low cost

materials. In Pakistan, Directorate of Staff Development, Association For Academic Quality (AFAQ), UNESCO, Canadian International Development Agency (CIDA), Deutshe Gesselschaft International Zusammenarbeit (GIZ), Japan International Cooperative Agency (JICA),Ali Academy, Khan Academy, City School System has worked on development of low cost materials. This material is present as open education resource on websites and is easy accessible. Information and communication technology can be integrated in classrooms in this regard.

In next chapter, findings, conclusions and recommendations of study have been discussed in detail.

CHAPTER 5

SUMMARY, FINDINGS, DISCUSSIONS, COCLUSIONS AND RECOMMENDATIONS

5.1 Summary

Professional development is a method of enhancing human performance. Professional development is a continuous and lifelong process. Transformative Learning Theory explains Transformative Learning and procedure of its occurrence. It is the process of "perspective transformation", with three dimensions: changes in understanding of the self, revision of belief systems and changes in lifestyle. Professional development is a key factor in delivery of quality education.

Basic purpose of staff development program is to enhance the capacity of teachers. Directorate of Staff Development, through its professional development program, is trying to enhance pedagogical skills of novice teachers. Directorate of Staff Development Punjab has organized a professional development program for teachers in Punjab. Research was aimed to evaluate the professional development of novice teachers in the context of Transformative Learning in Punjab. Objectives of the study were to investigate professional development of novice teachers in the areas of pedagogical skills, classroom practices and lesson planning skills in context of Transformative Learning ,to evaluate the professional development modules for novice teachers in context of Transformative Learning according to the views of

module developers, to explore Transformative Learning among novice teachers manifesting in classrooms, and to compare the professional development of novice teachers with respect to their designation, academic qualification and professional qualification.

Sequential exploratory research design was used for this study. In qualitative phase of study, interviews of master trainers and module developers of induction professional development program were conducted to explore their views about professional development of novice teachers in context of Transformational Learning. Observations were made to find out transformations among novice teachers manifesting in classrooms. In quantitative phase, quantitative data were collected from novice teachers through structured questionnaire to collect information about transformation in novice teachers in the areas of lesson planning, teaching methodology and classroom practices.

The population of the study comprised of 78,092 teachers who were recruited in the last three years (2010, 2011and 2012), master trainers and module developer of this training constituted population. Through multi stage sampling technique, 1,036 trained teachers from eight selected districts of Punjab province, 10 module developers and 35 master trainers were selected as sample. Research instruments comprised of a questionnaire for novice teachers, two structured interview schedules for master trainers and module developers and an observation checklist to evaluate the professional development of novice teachers in context of Transformative Learning in their classrooms. Data were collected by the researcher himself.

The responses of master trainers and module developers were analyzed qualitatively. Data obtained through questionnaire and observation checklist were analyzed through one way ANOVA and *t* test respectively.

5.2 Findings

Exploration of Transformative Learning among novice teachers manifesting in classrooms and evaluation of professional development modules in context of Transformative Learning were the objective of the study. Keeping in view above mentioned objectives, study yielded following findings.

5.2.1 Views of master trainers in context of transformative learning

Qualitative findings are as follows:

5.2.1.1 Lesson planning

Here is detail of professional development of novice teachers in the area of lesson planning skills in context of Transformative Learning.

5.2.1.1.1 Disorienting dilemma

QUAL analysis 22-24 was related to disorienting dilemma. Analysis reflected that transformative learning processes were initiated by triggering event or disorienting dilemma. Introduction of objectives of training, previous experiences of novice teachers regarding lesson planning, introduction of activity-based and SLOs based lesson planning, guidance of master trainers provided to novice teachers to resolve the conflicts regarding previously held lesson planning skills and newly introduced lesson planning skills acted as contributing factors towards disorienting dilemma for novice teachers. These indicators brought transformation among novice teachers in the area of lesson planning. Following findings revealed that

transformation occurred among novice teachers and objective based and content based lesson planning was transformed to SLO based and activity based lesson planning.

1 Master trainer had knowledge regarding objectives of professional development program. The main objective of professional development program was to enhance professional abilities of teachers so that they may serve in better way. Focus of induction professional development program was on lesson planning, teaching methodologies, classroom practices and government initiatives in the field of Education (QUAL Analysis 22).

2. Earlier, novice teachers had conventional view regarding lesson planning which was based on objectives and contents while it had less focus on activities and interaction with students. Novice teachers were introduced with SLOs based lesson planning. Concept building of novice teachers was strengthened by enhancing interaction of teacher with students through activities. Novice teachers transformed their objective based and content based lesson planning to SLO based and activity-based lesson planning (QUAL Analysis 23).

3. Novice teachers were guided in reconciling the previously held lesson planning skills and newly introduced lesson planning skills by realizing them that SLO based lesson planning is need of time. Novice teachers were also informed that activity-based lesson planning is professional demand. Novice teachers were introduced to the fact that SLO based lesson planning will help them in future in strengthening their professional skills (QUAL Analysis 24).

5.2.1.1.2 *Critical reflection*

QUAL analysis 25-27 was related to critical reflection in the area of lesson planning. Analysis revealed that one of the key elements in perspective transformation was critical reflection. Indications of making critical assessment of previously held assumptions, focusing on important areas of lesson planning, analysis of lesson planning skills, and comparison of previously held lesson plan skills with newly introduced lesson plan skills were indicators of critical reflection for novice teachers. These indicators brought transformation among novice teachers in the area of lesson planning.

4. Focused areas of the lesson planning were SLOs, activities, group discussion in class, SOLO taxonomy based assessment and brain storming activities. Focused area of lesson planning was to link the topic to previous topics by raising some questions. There was an emphasis on introductory activities, development activities and assessment activities. Novice teachers transformed themselves in these aspects (QUAL Analysis 25).
5. Individual and group activities were presented for critical analysis of novice teachers' lesson planning skill. Novice teachers prepared lesson plan and presented model lessons in class. Performance of teachers was rated by their fellows. An environment of competition also facilitated novice teachers to analyze their performance. Through peer review and group discussion, novice teachers analyzed their lesson planning skill .These factors remained supportive in bringing transformation among learners (QUAL Analysis 26).

6. For comparison of previous lesson planning skill of novice teachers with newly introduced lesson planning skills, novice teachers were introduced with latest and activity-based lesson planning skills through role plays and presentations in class. Novice teachers compared it with their previously held assumptions. Through discussion, novice teachers realized that active participation of learner is necessary in teaching learning process (QUAL Analysis 27).

5.2.1.1.3 *Rational discourse*

QUAL analyses 28-30 were related to rational discourse. Analysis revealed that the third contributing factor in Transformative Learning was rational discourse. Performance of activities for enhancement of lesson planning skill, group work, extensive practice of lesson planning, lesson planning related presentations and novice teachers' mutual cooperation were indicators of rational discourse for Novice educators. These indicators brought transformation among novice teachers in the area of lesson planning.

7. For enhancement of lesson planning skills, there was a focus on development of low cost materials , examples from daily life routine , group activities, , brainstorming activities , assessment 'motivation , interactive method, discussion method, role play method and project method. Novice teachers worked jointly on lesson planning in groups. They prepared lesson plans, presented it in class and transformed themselves in this way (QUAL Analysis 28).

8. Novice teachers were provided activities for extensive practice of lesson planning with the help of model lessons given in modules and individually prepared lesson plans. Novice teachers were involved in group activities, practical work, lesson plan related home assignment, model making, creative ideas, development of low cost material and use of multimedia. Master trainers added that well prepared presentations of lesson planning were done by novice teachers. These presentations were presented individually and in group forms (QUAL Analysis 29).
9. There was a focus on development of low cost material with the help of ideas sharing, usage of available materials in school and environment, practices of group and peer discussion. Developed low cost material was exhibited by trainees in well manner. Novice teachers cooperated with one another in development of low cost material. Teachers' active role in lesson planning and novelty in ideas were observed among novice teachers in this regard (QUAL Analysis 30).

5.2.1.2 Classroom practices

Here is detail of professional development of novice teachers in the area of classroom practices in context of Transformative Learning. Following findings revealed that activity-based learning, discussion, interesting and practical way of dealing helped novice teachers to transform their beliefs regarding classroom practices.

5.2.1.2.1 Disorienting dilemma

QUAL analyses 37-38 were related to disorienting dilemma. Analysis revealed that introduction of previous and newly classroom practices, facilitation to resolve conflicts of novice teachers regarding classroom practices acted as contributing factors towards disorienting dilemma for novice teachers. These indicators brought transformation among novice teachers in the area of classroom practices.

10. Innovative classroom practices like activity-based teaching, use of low cost material ,presentations through multimedia ,the practice of use of multimedia, model making , chart making , active interaction with students, group discussion and question answer practices were adopted for innovative classroom practices . Master trainers added that assessment activities, activity-based homework, classroom management, motivation, reinforcement and positive learning environment were introduced. Master trainers narrated that earlier classroom practices like previous way of dealing of teachers with students and parents, less participation of learners, less focus on concept building, old styles of class room management and class environment, teacher's authoritative behavior ,no novelty ,no creativity and use of corporal punishment were discussed as earlier practices (QUAL Analysis 37).
11. Novice teachers were facilitated to resolve conflicts about classroom practices by realizing them the importance of innovative classroom practices. Novice teachers' queries and conflicts regarding classroom practices were resolved through discussions and answering. Both, prevailing classroom practices and innovative classroom practices were presented for novice teachers. Novice

teachers were facilitated in resolving their conflicts and they were motivated to adopt new practices (QUAL Analysis 38).

5.2.1.2.2 *Critical reflection*

QUAL analysis 39 was related to critical reflection. Analysis revealed that comparison of newly introduced classroom practices with previous ones and emphasis on adoption of new classroom practices were indicators of critical reflection for novice teachers. These indicators brought transformation among novice teachers in the area of classroom practices.

12. Interaction with students, assessment, motivation and creative homework were focused for adoption of classroom practices in real classroom situation. Novice teachers transformed themselves by adopting these practices. Focus on activities, development of low cost material, classroom management, presentation through multimedia, development and display of creative work by learners, activity-based home work, implementations of SLO based educational calendar were emphasized for adoption. Previous situation of classroom practices were also presented for teachers to compare it with latest practices. This comparison was helpful for novice teachers to make analysis of utility of innovative practices (QUAL Analysis 39).

5.2.1.2.3 *Rational discourse*

QUAL analyses 40-42 were related to rational discourse. Analysis reflected that propositions for creating environment conducive to learning, performance of activities for execution of classroom practices, observance of outcomes among novice teachers in the result of professional development program and changing in beliefs of

novice teachers towards teaching were indicators of rational discourse. These indicators remained supportive in bringing transformation among novice teachers in the area of classroom practices.

13. Group discussion and involvement of learners in class were proposed to create environment conducive to learning. Question answer technique, learning activities and student's participation strategies were adopted for conducive environment of learning. Strategies for creating environment conducive to learning, friendly but respectful attitude, full participation from participants and good environment were proposed (QUAL Analysis 40).
14. Discussion and interaction with trainees, motivational techniques, student-centered work, indoor and outdoor curricular activities were proposed for enhancement of classroom practice. Activity-based learning, discussion, interesting and practical way of dealing helped novice teachers to transform their beliefs regarding classroom practices. Role play, activity-based learning, inquiry-based learning and problem solving methods also remained helpful to bring changes in beliefs of novice teachers regarding classroom practices. Group work and impressive remarks remained helpful in changing beliefs of novice teachers regarding classroom practices (QUAL Analysis 41).
15. Outcome of professional development program was promotion of quality education. Friendly learning environment on the basis of activities and modern teaching technologies was product of professional development program. Outcomes were conceptual teaching and effective learning (QUAL Analysis 42).

5.2.1.3 Teaching methodology

Here is detail of professional development of novice teachers in the area of teaching methodologies in context of Transformative Learning. Following findings revealed that visible change occurred in pedagogical skill of novice teachers and novice teachers adopted learner-centered teaching methodologies.

5.2.1.3.1 Disorienting dilemma

QUAL analyses 31-32 were related to disorienting dilemma. Discussion about novice teachers' already possessed teaching methodologies, introduction of new teaching methodologies, feelings of novice teachers towards new teaching methodologies, facilitation of novice teachers to differentiate among teacher-centered and student-centered teaching methodology were indicators of disorienting dilemma. These elements brought transformation among novice teachers in the area of teaching methodology.

16. Novice teachers were aware of lecture method, demonstration method, storytelling method, book reading method and lecture cum demonstration method. Novice teachers were introduced with activity-based teaching method, group discussion method, assignment method, project method, role play method and presentation method. Novice teachers were given democratic and collaborative environment to strengthen their teaching methodology. Novice teachers felt that they are moving towards betterment while going through transformation process and adopting new methodologies (QUAL Analysis 31).

17. Different teaching styles and teaching methods were presented for teachers. Novice teachers were facilitated to differentiate among teacher-centered and learner-centered teaching methodologies by presenting these methods practically. Analysis of output of different teaching methods also facilitated novice teachers to adopt learner-centered teaching methodologies. (QUAL Analysis 32).

5.2.1.3.2 Critical reflection

QUAL analyses 33-34 were related to critical reflection. Analysis reflected that comparison of traditional and modern teaching methodologies and analysis of effectiveness of modern teaching methodologies acted as indicator of critical reflection. These indicators brought transformation among novice teachers in the area of teaching methodology.

18. Traditional and modern teaching methodologies were presented practically in training and during comparison of traditional and modern teaching methodologies. Modern teaching methodologies were found most suitable for modern classrooms (QUAL Analysis 33).
19. For analysis of effectiveness of innovative teaching methodologies, same concept was delivered to novice teachers through traditional method and innovative methods .Through discussion, advantages and disadvantages of these teaching methodologies were assessed. Such type of open discussions facilitated to analyze the effectiveness of innovative teaching methodologies (QUAL Analysis 34).

5.2.1.3.3 Rational discourse

QUAL analyses 35-36 were related to rational discourse. Analysis revealed that adoption of different techniques to motivate novice teachers for effective teaching, effect of innovative teaching methodologies on attitude of novice teachers towards teaching, emphasis on adoption of modern teaching methodologies and role of collaborative teaching were indicators of rational discourse. These indicators brought transformation among novice teachers in the area of teaching methodology.

20. Motivational techniques like appreciation and creation of competitive environment , use of project method , display of assignments and achievements of novice teachers, strategy of involving students in activities was adopted to strengthen instructional skills of novice teachers. For the improvement in teaching, collaborative technique was used. Novice teachers always accepted the directions regarding new teaching techniques. Novice teachers' attitude towards innovative teaching methodology was positive (QUAL Analysis 35).
21. Student-centered methodologies, activity-based teaching and group discussion teaching methodologies were emphasized for adoption. A visible change occurred in pedagogical skill of novice teachers. Interactive technique of teaching, inquiry based teaching methodology, project method and presentation method were emphasized for adoption. They added that collaborative teaching methodology was focused for adoption. Collaborative teaching was promoted through discussions, projects and collective assignments. Motivational techniques of appreciation encouraged the novice

teachers and they adopted learner-centered teaching methodologies (QUAL Analysis 36).

5.2.2 Views of module developers in context of transformative learning

Here is detail of views of module developers regarding evaluation of professional development modules for novice teachers in the context of Transformative Learning.

5.2.2.1 *Views of module developers about lesson planning and disorienting dilemma*

QUAL analyses 1-3 were related to disorienting dilemma. Analysis revealed that introduction of objectives of training, previous experiences of novice teachers regarding lesson planning, introduction of activity-based and SLOs based lesson planning, guidance provided to novice teachers to resolve the conflicts regarding previously held lesson planning skills and newly introduced lesson planning skills acted as contributing factors towards disorienting dilemma.

22. Module developers were aware of the objectives of Professional Development Program. These objectives were to strengthen novice teachers in the areas of content, pedagogical skills, SLOs based lesson planning, transformation in pedagogical skills, classroom practices, activity-based lesson planning, use of educational technology, government initiatives in the field of education, quality education and modern concept of teaching learning process (QUAL Analysis 1).
23. It was expected that novice teachers had traditional view regarding lesson planning which was based on general and specific objectives and had less

focus on activities and interaction with students. Through modules, novice teachers were introduced with SLOs and activity-based lesson planning. In these modules, learner's concept building and learner's interaction with teacher and students was focused (QUAL Analysis 2).

24. Novice teachers were provided learning material to resolve the conflicts among previous held lesson planning skills and newly introduced lesson planning skills in three ways. Firstly, they were informed that it is demand of new era. Secondly, it is professional demand. Thirdly, it will help them in future to strengthen their professional skills (QUAL Analysis 3).

5.2.2.2 *Views of module developers about lesson planning and critical reflection*

QUAL analyses 4-6 were related to Critical Reflection. Analysis revealed that critical assessment of previously held assumptions, focusing of important areas of lesson planning, analysis of lesson planning skills and comparison of previously lesson planning skills with newly introduced lesson planning skills were indicators of critical reflection.

25. Activities were provided in modules for critical analysis of previous lesson planning skill of novice teachers. Templates of lesson planning were also included. Areas of SLOs, introduction activates, development activities, assessment activities, feedback from students, homework and assignments were focused in module. There was a focus on SLOs and activities. As New National Curriculum is based on SLOs and School Education Department

want to promote activity-based teaching so these areas were focused in lesson planning (QUAL Analysis 4).

26. Activities for analysis of lesson planning skills were provided in modules. Individual and group activities were proposed for novice teachers to analyze their lesson planning skill. Novice teachers had to present lesson plan in groups and classes. With the help of peer review and group discussion, they had to analyze their lesson planning skill. Activities were proposed to prepare lesson plans and present model lessons in class (QUAL Analysis 5).
27. Novice teachers were introduced with latest and activity based lesson planning skills through role plays and presentations in class. Novice teachers had to compare it with their previously held assumptions in this regard (QUAL Analysis 6).

5.2.2.3 *Views of module developers about lesson planning and rational discourse*

QUAL analyses 7-9 were related to rational discourse. Analysis revealed that performance of activities for enhancement of lesson planning skill, group work, extensive practice of lesson planning, lesson planning related presentations and novice teachers' mutual cooperation were indicators of rational discourse.

28. Novice teachers had to prepare lesson plans on the assigned SLOs and topics. Group activities were proposed for lesson planning. Master trainers had to present model lessons .Following their pattern, novice teachers had to present model lessons in class. Templates of lesson plan were provided in module. Some readymade lesson plans were given in modules. Novice teachers had to

practice for preparation and deliverance of lesson plans in groups and individually (QUAL Analysis 7).

29. Strategies for practice of lesson planning were designed. Novice teachers had to present lesson plans given in modules in groups and in classes. They had to prepare lesson plans on assigned SLOs. Extensive lesson planning by novice teachers was proposed in modules through different activities. Lesson plan related home assignments were also proposed in modules. Novice teachers had to present these lesson plans in class through Microsoft Power Point presentations (QUAL Analysis 8).
30. Activities were suggested for development of low cost material. Novice teachers had to prepare low cost learning material under the guidance of master trainers. It was proposed to establish display corner for it. Group and class activities were proposed for preparation of material with mutual cooperation. Environment of competition was proposed so that novice teachers may be motivated to develop learning material. It was expected from novice teachers that their view towards lesson planning will be changed and it will learner-centered (QUAL Analysis 9).

5.2.2.4 *Views of module developers about teaching methodology and disorienting dilemma*

QUAL analyses 10-11 were related to disorienting dilemma. Analysis revealed that discussion about novice teachers' already possessed teaching methodologies, introduction of new teaching methodologies, feelings of novice teachers towards new teaching methodologies and facilitation of novice teachers to differentiate among

teacher-centered and student-centered teaching methodology were indicators of disorienting dilemma.

31. It was expected that novice teachers were aware of lecture method, demonstration method, lecture cum demonstration method, reading method, and dictation method. Novice teachers were introduced with activity-based teaching method, group discussion method, assignment method, project method, role play method and presentation method. During learning of new teaching methodologies, novice teachers had to analyze their competencies in the area of teaching methodologies and it was expected that they will realize importance of new teaching methodologies (QUAL Analysis 10).
32. Module developers presented different teaching styles for differentiation of teacher-centered and learner-centered teaching methodologies. By presenting merits and demerits of teacher-centered and learner-centered teaching methodologies, novice teachers were facilitated to differentiate among methodologies (QUAL Analysis 11).

5.2.2.5 ***Views of module developers about teaching methodology and critical reflection***

QUAL analyses 12-13 were related to critical reflection. Comparison of traditional and modern teaching methodologies and analysis of effectiveness of modern teaching methodologies acted as indicator of critical reflection.

33. For comparison of traditional and modern pedagogical techniques, module developer presented activities for novice teachers to present same lesson through modern and traditional methods. Novice teachers had to analyze

themselves by presenting a lesson through modern and traditional method. Master trainer had to guide them also regarding modern innovative teaching methodologies (QUAL Analysis 12).

34. For analysis of effectiveness of innovative teaching methodologies, module developers provided activates and same concept was to be delivered through traditional method and innovative methods. Through questioning and discussions, effectiveness of innovative teaching methodologies was to be analysed (QUAL Analysis 13).

5.2.2.6 *Views of module developers about teaching methodology and rational discourse*

QUAL analyses 14-15 were related to rational discourse. Analysis reflected that adoption of different techniques to motivate novice teachers for effective teaching, effect of innovative teaching methodologies on attitude of novice teachers towards teaching, emphasis on adoption of modern teaching methodologies and role of collaborative teaching were indicators of rational discourse.

35. Module developers suggested activities for motivation of novice teachers for effective teaching. Group activities and environment of competition was proposed for novice teachers. Critical analysis activities were proposed to analyze their teaching methodology and adopt new teaching methodologies. Group discussion and peer review technique were used to motivate trainees. Overall focus was to bring positive changes in attitudes of novice teachers towards teaching (QUAL Analysis 14).

36. Module developers focused on project method, assignment method, group method and activity-based teaching method for adoption. Teaching methodologies in which students actively participate were focused. Concept building through collaborative teaching was emphasized. Collaboration among novice teachers was promoted by assigning them joint assignments and tasks (QUAL Analysis 15).

5.2.2.7 *Views of module developers about classroom practices and disorienting dilemma*

QUAL analyses 16-17 were related to disorienting dilemma. Analysis reflected that introduction of previous and newly classroom practices, facilitation to resolve conflicts of novice teachers regarding classroom practices acted as contributing factors towards disorienting dilemma.

37. Novice teachers were introduced with new instructional practices like question answer technique, interaction with students, activities, assessment, activity-based homework, classroom management, active participation of learners, positive learning environment, motivation and reinforcement. It was assumed that such practices were not carrying out and there was disorder in class room management and learning environment (QUAL Analysis 16).
38. Learning material was provided for facilitation of novice teachers to resolve conflicts about classroom practices through questioning answering and discussions. By presenting prevailing classroom practices and introduced classroom practices, master trainers had to facilitate novice teachers in this regard. Three strategies were proposed to resolve conflicts in the area of

classroom practices: self analysis, awareness with new practices, process to adopt new practices (QUAL Analysis 17).

5.2.2.8 ***Views of module developers about classroom practices and critical reflection***

QUAL analysis 18 was related to critical reflection. Comparison of newly introduced classroom practices with previous ones and emphasis on adoption of new classroom practices were indicators of critical reflection.

39. It was focused on interaction with students, development of low cost material, classroom management, motivation, creative homework, selection of content on the basis of SLOs, selection of activities, discussion, activity demanded classroom management, assessment, feedback and creativity based home work for adoption as classroom practices in real classroom situation in modules. Prevailing situation of classroom practices were also presented for teachers to compare it with latest practices (QUAL Analysis 18).

5.2.2.9 ***Views of module developers about classroom practices and rational discourse***

QUAL analyses 19-21 were related to rational discourse. Analysis reflected that propositions for creating environment conducive to learning, performance of activities for execution of classroom practices, observance of outcomes among novice teachers in the result of professional development program, changing in beliefs of novice teachers towards teaching were indicators of rational discourse.

40. Activities were recommended for creation of conducive learning environment. Motivation, competition and discussion technique were suggested for this

purpose. Well planned master trainers, planned lesson presentations, purposeful activities, suitable classroom management, motivation and reinforcement technique were proposed to create conducive learning environment (QUAL Analysis 19).

41. Activities were provided for execution of classroom practices. Classroom related activities like role play, display of models and charts and material development were proposed for execution of classroom practices. On the basis of practice of these activities, it was expected that novice teachers' belief will change in this regard and it will according to demand of new era (QUAL Analysis 20).
42. Expected outcomes of Professional Development Program were arrival of novice teachers with prepared lesson in class. It was expected that novice teachers will promote conceptual learning by active participation of learners in class. They will practice effective teaching methodology and will become a source of quality education. Well rounded active novice teachers equipped with modern teaching methodologies and lesson planning skill was expected in the result of this professional development program (QUAL Analysis 21).

5.2.3 Quantitative findings

Objectives of the study were to explore and compare professional development of novice teachers in the areas of lesson planning skills, classroom practices and teaching methodologies in context of Transformative Learning. Keeping in views above mentioned objectives and analysis of data, study yielded following findings.

5.2.3.1 *Lesson planning*

Findings revealed that professional development program strengthened lesson planning skill of novice teachers. Transformation occurred among novice teachers in the areas of planning teaching activities, using motivational techniques, focusing on SLOs, focusing individual differences, parts of lesson and clarity of students' concepts.

43. Questionnaire data revealed that there is no significant difference in the mean scores of novice Elementary, Senior Elementary and Secondary School Educators regarding professional development of lesson planning skills in context of Transformative Learning (p=.480),(Quan Analysis 1 / Table 4.5).Same transformation occurred among novice teachers in the area of lesson planning skill with respect to their designation. Similar results were derived from observation data (p=.641), (Quan Analysis 10 / Table 4.28).

    Qualitative analysis revealed that master trainers provided activities for enhancement of lesson planning skills like development of learning material, questions answers techniques, use of AV aids, development of low cost material, group discussion and presentations activities (QUAL Analysis 28).

44. It was found from questionnaire data that there was a significant difference in the mean scores of Bachelor and Master degree holder novice teachers regarding lesson planning skills in context of Transformative Learning (p=0.40).More transformation occurred among bachelor degree holder novice teachers in the area of lesson planning skills than master degree holder novice teachers. But there was no significant difference in the mean scores of

Bachelor and M. Phil. degree holder novice teachers (p=.374). There was also no significant difference in the mean scores of Master and M. Phil. degree holder novice teachers (p=.983), (Quan Analysis 4 / Table 4.14).But observation data discovered that there is no significant difference in this regard (p=.753), (Quan Analysis 13 / Table 4.36).

45. It was found from questionnaire data that there was no significant difference in the mean scores of lesson planning skills of novice teachers in context of Transformative Learning with respect to professional qualification i.e. B. Ed. & M. Ed. of novice teachers (p=.372), (Quan Analysis 7 / Table 4.21). Same transformation occurred among novice teachers in the area of lesson planning skill with respect to their professional qualification. Similar results were derived from observation data (p=.075), (Quan Analysis 16 / Table 4.42).Master trainers explained that novice teachers performed all activities up to the mark like lesson planning, development of low cost material, chart making, model making, presentations and classroom practices (QUAL Analysis 29).

5.2.3.2 *Teaching methodology*

Findings revealed that professional development program strengthened pedagogical skill of novice teachers. Transformation occurred among novice teachers in the areas of using learner centered teaching methodology, using AV aids, using teaching methodology according to demand of lesson, using technique of peer review and group discussion.

46. Questionnaire data revealed that there is no significant difference in the mean scores of novice Elementary, Senior Elementary and Secondary School Educators regarding professional development of teaching methodology in context of Transformative Learning (*p*=.549), (Quan Analysis 3 / Table 4.10). Same transformation occurred among novice teachers in the area of teaching methodology skill with respect to their designation. Similar results were derived from observation data (*p*=.881), (Quan Analysis 12 / Table 4.32).According to qualitative analysis, Master trainers explained that a visible change occurred in pedagogical skill of novice teachers. Modern teaching methodologies were found most suitable for modern classrooms (QUAL Analysis 35).
47. Questionnaire data revealed that there is no significant difference in the mean scores of teaching methodologies of novice teachers in context of Transformative Learning with respect to academic qualification (*p*=.087), (Quan Analysis 6 / Table 4.19). Same transformation occurred among novice teachers in the area of teaching methodology skill with respect to their academic qualification. Same was confirmed from observation data (*p*=.526), (Quan Analysis 15 / Table 4.40).
48. There was a significant difference in the mean scores of teaching methodology of novice teachers in context of Transformative Learning with respect to their professional qualification i.e. B. Ed. & M. Ed. (p =.015), (Quan Analysis 9 / Table 4.25). More transformation occurred among M. Ed. degree holder novice teachers in the area of teaching methodology than B. Ed.

degree holder novice teachers. Same difference was resulted from observation data (p=.033), (Quan Analysis 18 / Table 4.46).M Ed degree holder novice teachers transformed themselves better in this regard.

5.2.3.3 *Classroom practices*

Findings revealed that professional development program strengthened novice teachers in the areas of classroom practices. Transformation occurred among novice teachers in the areas of interaction with students, creating conducive learning environment, building confidence of learners, providing feedback to students, assigning homework and using effective assessing techniques.

49. It was found from questionnaire data that there was a significant difference in the mean scores of Novice ESEs and SESEs regarding classroom practices (*p*=0.39).There was a significant difference in the mean scores of Novice ESEs and SSEs (*p*=0.11) also. But there was no significant difference in the mean scores of Novice SESEs and SSEs (*p*=.475), (Quan Analysis 2 / Table 4.8). But observation data revealed that here is no significant difference in the mean scores of novice Elementary, Senior Elementary and Secondary School Educators regarding classroom practices in context of Transformative Learning (*p*=.875), (Quan Analysis 11 / Table 4.30).Quantitative data revealed that Elementary School Educators transformed themselves better than Senior Elementary School Educators and Secondary School Educators in the area of classroom practices and more transformation occurred among Elementary School Educators in this regard.

50. Questionnaire data revealed that there was a significant difference in the mean scores of classroom practices of Bachelor and Master degree holder novice teachers (p=0.002). There was also significant difference in the mean scores of Bachelor and M. Phil. degree holder novice teachers (p=.006). There was no significant difference in the mean scores of Master and M. Phil. degree holder novice teachers (p=.306), (Quan Analysis 5 / Table 4.17).But observation data revealed that there is no significant difference in this regard (p=.140), (Quan Analysis 14 / Table 4.38). Quantitative data revealed that Bachelor degree holder novice teachers transformed themselves better than Master and M. Phil. degree holder novice teachers in the area of classroom practices and more transformation occurred among Bachelor degree holder novice teachers in this regard.
51. It was resulted from questionnaire data that there was a significant difference in the mean scores of classroom practices of novice teachers in context of Transformative Learning with respect to their professional qualification i.e. B. Ed. & M. Ed. (p=.013), (Quan Analysis 8 / Table 4.23).But observation data revealed that there is no significant difference in this regard (p=.076), (Quan Analysis 17 / Table 4.44). Quantitative data revealed that M. Ed. degree holder novice teachers transformed themselves better than B. Ed. degree holder novice teachers in the area of classroom practices and more transformation occurred among M. Ed degree holder novice teachers in this regard.

It was found that novice teachers experienced transformation in terms of lesson planning, classroom practices and teaching methodology through the process of disorienting dilemma, critical reflection and rational discourse. Modules were supportive for novice teachers for their professional development. Module developers and master trainers agreed that modules and professional development program were effective for novice teachers in the area of lesson planning, classroom practices and teaching methodology in the context of transformative learning.

Findings reflected that transformative learning processes were initiated by triggering event or disorienting dilemma. Introduction of objectives of training, previous experiences of novice teachers regarding lesson planning, introduction of activity-based and SLOs based lesson planning, guidance of master trainers provided to novice teachers to resolve the conflicts regarding previously held lesson planning skills and newly introduced lesson planning skills acted as contributing factors towards disorienting dilemma for novice teachers.

The study found that one of the key elements in perspective transformation was critical reflection. Indications of making critical assessment of previously held assumptions, focusing of important areas of lesson planning, analysis of lesson planning skills and comparison of previously lesson planning skills with newly introduced lesson planning skills were indicators of critical reflection for novice teachers.

Findings of the study revealed that the third contributing factor in Transformative Learning was rational discourse. Performance of activities for enhancement of lesson planning skill, group work, extensive practice of lesson

planning, lesson planning related presentations and novice teachers' mutual cooperation were indicators of rational discourse for Novice educators. These indicators brought transformation among novice teachers in the area of lesson planning. It was found that the notice teachers experienced transformation and there was a shift from objective based and content based lesson planning to SLO based and activity-based lesson planning. Novice teachers transformed themselves by planning teaching activities, using motivational techniques, focusing on SLOs, focusing individual differences, parts of lesson and clarity of students' concepts.

Findings revealed that activity-based learning, discussion, interesting and practical way of dealing helped novice teachers to transform their beliefs regarding classroom practices. Study reflected that introduction of previous and newly classroom practices, facilitation to resolve conflicts of novice teachers regarding classroom practices acted as contributing factors towards disorienting dilemma for novice teachers. Findings reflected that comparison of newly introduced classroom practices with previous ones and emphasis on adoption of new classroom practices were indicators of critical reflection for novice teachers.

Findings revealed that propositions for creating environment conducive to learning, performance of activities for execution of classroom practices, observance of outcomes among novice teachers in the result of professional development program and changing in beliefs of novice teachers towards teaching were indicators of rational discourse. These indicators remained supportive in bringing transformation among novice teachers in the area of classroom practices. Novice teachers transformed themselves by practicing interaction with students, creating conducive

learning environment, building confidence of learners, providing feedback to students, assigning activity-based homework and using effective assessing techniques.

Findings reflected that visible change occurred in pedagogical skill of novice teachers and novice teachers adopted learner-centered teaching methodologies. Discussion about novice teachers' already possessed teaching methodologies, introduction of new teaching methodologies, feelings of novice teachers towards new teaching methodologies, facilitation of novice teachers to differentiate among teacher-centered and student-centered teaching methodology were indicators of disorienting dilemma.

Findings reflected that comparison of traditional and modern teaching methodologies and analysis of effectiveness of modern teaching methodologies acted as indicator of critical reflection. Findings revealed that adoption of different techniques to motivate novice teachers for effective teaching, effect of innovative teaching methodologies on attitude of novice teachers towards teaching, emphasis on adoption of modern teaching methodologies and role of collaborative teaching were indicators of rational discourse. These indicators brought transformation among novice teachers in the area of teaching methodology. Novice teachers transformed themselves by using learner-centered teaching methodology, using AV aids, using teaching methodology according to demand of lesson, using technique of peer review and group discussion.

Quantitative data revealed significant difference among novice teachers in the area of classroom practices with respect to designation in context of transformative

learning. Significant difference was also observed among novice teachers in the areas of lesson planning and classroom practices with respect to their academic qualification in context of transformative learning. Significant difference was also observed among novice teachers in the areas of teaching methodologies and classroom practices with respect to their professional qualification in context of transformative learning.

5.3 Conclusions

The following conclusions are drawn from the findings of the study:

1. Novice teachers adopted SLO based and activity-based lesson planning skills effectively which were introduced by mater trainers. Introduction of objectives of training, previous experiences of novice teachers regarding lesson planning, introduction of activity-based and SLO based lesson planning, guidance of master trainers to resolve the conflicts regarding previously held lesson planning skills and newly introduced lesson planning skills acted as contributing factors towards disorienting dilemma. Indications of making critical assessment of previously held assumptions, focusing of important areas of lesson planning, analysis of lesson planning skills and comparison of previously held lesson planning skills with newly introduced lesson planning skills were indicators of critical reflection. Performance of activities for enhancement of lesson planning skill, group work, extensive practice of lesson planning, lesson planning related presentations and novice teachers' mutual cooperation were indicators of rational discourse. All these

factors brought transformation among novice teachers in the area of lesson planning (Findings 1-9).

2. Classroom practices like question answer technique, interaction with students, development of learning material, activities, assessment, activity-based and creative homework, classroom management and motivation were adopted by novice teachers. Introduction of previous and newly classroom practices, facilitation to resolve conflicts of novice teachers regarding classroom practices acted as contributing factors towards disorienting dilemma. Comparison of newly introduced classroom practices with previous ones and emphasis on adoption of new classroom practices were indicators of critical reflection. Propositions for creating environment conducive to learning, performance of activities for execution of classroom practices, observance of outcomes among novice teachers in the result of professional development program and changing in beliefs of novice teachers towards teaching were indicators of rational discourse. These aspects brought transformation among novice teachers in the area of classroom room practices (Findings 10-15).
3. Project method, group discussion, presentation method, activity-based and collaborative methodologies were happily adopted by novice teachers. Discussion about novice teachers' already possessed teaching methodologies, introduction of new teaching methodologies, feelings of novice teachers towards new teaching methodologies and facilitation to differentiate among teacher-centered and student-centered teaching methodology were indicators of disorienting dilemma. Comparison of traditional and modern teaching

methodology and analysis of effectiveness of modern teaching methodologies acted as indicator of critical reflection. Adoption of different techniques to motivate novice teachers for effective teaching, effect of innovative teaching methodologies on attitude of novice teachers towards teaching, emphasis on adoption of modern teaching methodologies and role of collaborative teaching were indicators of rational discourse. These aspects brought transformation among novice teachers in the area of teaching methodology (Findings 16-21).

4. Views of module developers revealed that training modules provided activities for Transformative Learning in the areas of lesson planning skills, classroom practices and teaching methodologies. Evidences of disorienting dilemma, critical reflection and rational discourse were reported in module (Findings 22-42).
5. There was no significant difference in the mean scores of novice teachers regarding professional development in the areas of lesson planning skills and teaching methodologies in context of Transformative Learning with respect to their designation. Novice Elementary School Educators transformed themselves better than Senior Elementary School Educators and Secondary School Educators in context of classroom practices. Joint function of mentoring and professional development resulted more transformation in Novice Elementary School Educators (Findings 43, 46 & 49).
6. There was no significant difference in the mean scores of novice teachers regarding professional development in the area of teaching methodologies in context of Transformative Learning with respect to their academic

qualification. Bachelor degree holder novice teachers transformed themselves better than master degree holder novice teachers in the areas of lesson planning and classroom practices. Bachelor degree holder novice teachers also transformed themselves better than M. Phil. degree holder novice teachers in the area of classroom practices (Findings 44, 47 & 49).

7. There was no significant difference in the mean scores of lesson planning skills of novice teachers in context of Transformative Learning with respect to their professional qualification. M. Ed. degree holder novice teachers transformed themselves better than B. Ed. degree holder novice teachers in the areas of classroom practices and teaching methodologies. Higher professional qualification of novice teachers assisted them to transform their views in this regard. (Findings 45, 48 & 51).

5.4 Discussions

An effective teacher's fame lies in his/her quality of teaching. Only a dynamic teacher can carry out dynamic teaching. S/he not only imparts knowledge to the students increasing literacy rate, but also works to train them effectively. Quality of classroom and teaching learning process has been under study since long and many of the recent studies are devoted to this area. The education of teachers includes both pre-service and in-service trainings (Rao, 2007).

Professional development is a method of enhancing human workability. Whenever a person's ability to perform a job lacks knowledge or skills, the gap is bridged by providing the required instruction (Silberman, 2006). Professional development is a continuous and a lifelong process (Cowley, 2006).

An effort was being made by Directorate of Staff Development to improve teaching skills of new teachers. Professional development programs are conducted in the province of Punjab by its concerned directorate. The present study focused on the examination of professional development in context of Transformative Learning.

The study was carried out using sequential exploratory research design. Data were collected from module developers, master trainers and novice teachers. The study also included the interviews of master trainers and module developers during the qualitative phase of the study and their views were collected about professional development programs. Data were also collected from the novice teachers during the quantitative phase in the form of questionnaire. Instruments were structured to collect information about transformation among teachers. The areas which were focused during this survey were lesson planning, teaching methodology and classroom practices. The novice teachers were observed during classroom practices to find out transformation. The responses of trainers and module developers were analyzed qualitatively according to objectives. The analysis of quantitative data was done through one way ANOVA and an independent sample *t*-test.

Results of this study showed that lesson planning skills taught by the master trainer were efficiently adopted by the novice teachers with effective results. It was also revealed by activity-based work of novice teachers and developing of low cost material. These results are corresponding with Ranade (2006) who studied the intensification of lesson-planning skill of prospective science teachers through computer-assisted professional development program based on multiple intelligences approach and found confirmation of positive results. These results are also in

accordance with Dikici and Yavuzer (2006) whose study was regarding the effects of cooperative learning on the abilities of pre-service Art Educator candidates' lesson planning and found a significant difference between the post-test points in favor of the experimental group .

Prominent classroom practices were adopted by the novice teachers. Classroom practices like question answer technique, interaction with students, development of learning material, activities, assessment, activity based homework, classroom management, motivation and creative home work were adopted by novice teachers. These results are in lined with Piwowar, Thiel, and Ophardt (2013) who studied the efficacy of a professional development program for in-service secondary school teachers in the area of classroom practices. All the participants reported better knowledge of classroom management after attending professional development program. Varank (2013) studied the effects of teachers' educational technology skills on their classroom practices. The teachers with high perception of educational technology had high acuity of classroom practices. The results of the study of Sari (2007) also supported the results of the present study who evaluated the effect of an induction training program. It was found that the educators in the experimental group were remarkably more positive towards classroom practices and teachers' attitudes altered in relation to classroom practices.

A visible change occurred in pedagogical skill of novice teachers. Project method, group discussion, presentation method, activity based and collaborative teaching methodologies were happily adopted by novice teachers. These indicators were evident of transformation process among novice teachers. Novice teachers were

at ease to adopt project method, group discussion and presentation methods. This study further reveals improvement in teachers' pedagogical skills and these results are in lined with Bray and Howard (2000) who evaluated the professional development program of trainee teachers and noted changes in their teaching methodology. The results of the study were also tune up with the results of study of Afonso , Morais, and Neves (2005) who examined the relationship between models of teacher training and pedagogic practice of educators, executed in the classrooms. Findings of the study revealed that the teacher training executed was supportive to bring transformation in skills of novice teachers in the area of teaching methodology.

These results are also in lined with Brandes & Erickson (2005), Gibbs & Coffey (2004), Murphy, Neil & Beggs (2008), Atay (2008), Hansen-Thomas, Casey & Grosso (2012), Sass & Feng (2012), who resulted that teacher training programs improved teachers' professional development and made them more mature than earlier.

Almost all the areas of classroom practices were duly considered by the module developers who provided activities for Transformative Learning. Lesson planning, classroom management, activity-based teaching and active interaction with students made the pedagogy quite innovative. There was found significant difference in the mean scores of novice teachers regarding their professional development in these areas.

The use of Transformative Learning Theory in the educational context had many contributive elements like higher education (Barlas, 2000; Cohen & Piper, 2000; Glisczinski, 2005; Taylor, 2000), corporate human resources development

(Yorks & Marsick, 2000), academic committees (Kasl & Elias, 2000), community education (Silverman, 2004; Waithe, 2005) and professional development for teachers (Dumochel, 2004; King, 2002; Saavedra, 1995; Smith, 1999). The study undertaken had focused on how Transformative Learning could be facilitated in educational situation for novice teachers.

Taylor (2000) argued that it became teaching with development of intent when Transformative Learning was facilitated among adult students in formal university settings. Same was resulted here. Cohen and Piper (2000) had used the residential learning communities for facilitating perspective transformations in adult university students. The capacity of teacher education program was investigated by Glisczinski (2005) by using qualitative and quantitative analysis. The researcher in this method had used the same methodology as Glisczinski had. The study found that professional development progress resulted in effective transformation.

The perspective transformation of the students of the directorate was inspected by Barlas (2000). His point of attention was to look how social change was promoted through the linkage between personal transformation and subsequent actions. As social changes are time taking but transformation among novice teachers was reported in area of professional development in this study. The framework of action research and collaborative inquiry was used by Yorks and Marsick (2000) to explain the organizational transformation in corporate setting. They gave the examples from the real world and problem-solving events. The group activities were conducted where the participants experienced Transformative Learning. Group activities by master trainers significantly assisted the novice teachers to transform teaching

practices. It was also asserted by Kasl and Elias (2000) that the group activities enabled Transformative Learning. They conducted case study of an academic committee of university developing doctoral program in transformational perspective. The result of this study showed that Transformative Learning and group processes could be examined with the same view.

The students of Vietnamese communities were studied by Silverman (2004) who explored their learning process and transformative results. They were there in projects to protect coastal and marine environment. It was found that there occurred higher level of transformation during collaborative processes. Results of this study were also in lined with Silverman. Results of this study were also in accordance with Waithe (2005) who investigated the relationship between perspective transformation and behavior change. The intensive professional development of educators was examined by Dumochel (2004). She considered the content areas related to environmental education. Her framework of elements of educational experiences was devised upon the past studies on Transformative Learning and adult development. There are a number of elements involved in this process e.g. place, content, reflections etc. All these researches commonly found that transformation had been the outcome of group work done in collaboration. Novice teachers showed transformation as found through these qualitative and quantities studies.

The research on perspective transformation in teachers was provided by Smith (1999). She evaluated its influence on the classroom practices. It was the participation of the teachers in different professional development activities through which they got perspective transformation. Participation in classroom related activities enabled

novice teachers to bring transformation in classroom practices. Another research was conducted by Saavedra (1995) who found perspective transformation of novice teachers as a result of group work. The main findings of the study asserted that this setting produced group transformation acknowledging the recursive relationship between context and product where "context shapes the activity and talk and in return the activity and talk generate and shape the context" (Saavedra, 1995).Group discussion and debates opened the horizon of transformation among novice teachers in this study.

The above mentioned researches have one thing common i.e. transformation process was effective in the result of group activities. The researchers found that the novice teachers brought novelty in their classroom practices through innovation like activity based teaching, use of motivational techniques and use of low cost teaching material. King (2002) delivered educational technology instructions to practicing educators. Her vide range of experience made her realize that this activity was extremely potential for transformation of teachers.

The effectiveness of pedagogical training of teachers of school education was studied by many researchers with different results. The present research has reached the conclusion that the performance of novice teachers has positively been affected through professional development.

On the other hand, Gibbs and Coffey (2004) gave positive results of these training programs on the effectiveness of teachers. Using the approaches to teaching inventory, they presented that in four month program, the approach shifted from teacher-centered to student-centered. They also found that academic teaching was

also positively influenced by these training. In present study, there was also focus in student centered teaching methodology which was successfully achieved. It was however, found by Postareff et al. (2007) that these transformations were gradual. Teachers' pre-service trainings were found necessarily related to their productivity (Douglas and Tim, 2011). That is why more attention is given in induction training in Punjab. The effective use of up-to-date technology was studied by Galien and Bowcher (2010) in a well-informed curriculum. They found teacher training program as key to their professional development.

Gao and Wang (2014) concluded that different teaching experiences shape the teaching practices in different ways. These experiences do carry the effect of school cultures of teaching interacted with the centralized curriculum and teaching community. Kemmis et al, (2014) also concluded that there were various effects of training on teachers depending upon their social and cultural circumstances of learning. The findings of the study conducted by Consuegra, Engels and Struyven (2014) pointed out that the schools did not tend to facilitate the purpose of work place learning. They instead hinder it. Transformative Learning demands a specific transformative environment so in present study transformative environment was provided to novice teachers.

Moulding, Stewart and Dunmeyer (2014) and Stuckey, Taylor and Cranton (2013) worked together on inclusive evaluation of Transformative Learning Theory. The population of the study was the college teachers. The theory encompassed various perceptions of Transformative Learning. The transformational learning could also occur, as described by Walker and Molnar (2013) by bringing about changes in

students perceptions and molding it towards science investigation and considering it a requirement for future life. Present study also focused that application of Transformation Learning Theory can brought transformation among novice teachers.

Nicolaides and McCallum (2013) interpreted the theory and practice of teachers' professional development as a source of Transformative Learning and adoptive leadership. Cain and Dixon (2013) and Nash (2013) constructed a rationale for using the transformative teaching for reforming perceptions of literacy teachers towards teaching. A study exploring transformative pedagogy as a result of group work was undertaken by Vettraino, Linds, and Goulet (2013). According to Tanaka, Nicholson and Farish (2012), teacher educators facilitated the Transformative Learning course where the meaningful topics were investigated by the students on reflexive and relational basis within greater educational and socio-culture scenario. The findings of Shockley and Banks (2011) showed that the in-service teachers converted to unbiased of race and culture after Transformative Learning. Results of these studies are in accordance with present study which resulted transformation in lesson planning, teaching methodology and classroom practices.

All these researches led the researcher to the recognition that Transformative Learning theory had some unique perspectives which could reveal delicacies of educators' experiences. The present study stretched to the evaluation and comprehension of teachers' learning experiences founded on the literature on Transformative Learning Theory (Cranton, 1997; Merriam & Caffarella, 1998; Mezirow, 1994; Mezirow & Associates, 2000; Taylor, 1998) which made this research quite different from all other researches on traditional ways of professional

development of teachers. Results of this study strengthened the concept that transformation can be brought among novice teachers with reference to their professional skills.

5.5 Recommendations

On the basis of conclusions, following recommendations were generated:

1. Directorate of Staff Development/Quaid-e-Azam Academy for Educational Development may launch lesson planning improving program for other teachers who are teaching at Primary, Elementary and Secondary levels, as findings 1 to 9/conclusion 1 revealed that lesson planning skills were imparted to novice teachers in effective way. For this School Education Department and Directorate of Staff Development/Quaid-e-Azam Academy for Educational Development may prepare professional development modules and a pool of master trainers at district and tehsil level. Govt. of Punjab may allocate budget in this regard. Implementation of professional development programs remained an important issue. There may be developed an implementation strategy for professional development programs. Teachers and institutions may be ranked on the basis of implementations of professional development programs.
2. Novice teachers transformed themselves by adopting innovative classroom practices in effective way as findings 10 to 15/conclusion 2 revealed. Quality of education is directly related to quality of teachers and teacher training staff. Directorate of Staff Development/Quaid-e-Azam Academy for Educational

Development may introduce latest classroom practices to all teachers of Primary, Elementary and Secondary Level.

3. Novice teachers adopted modern teaching methodologies in effective way as findings 16 to 21/conclusion 3 revealed. School Education Department and Directorate of Staff Development/Quaid-e-Azam Academy for Educational Development may work on transformation of traditional teaching methodology to innovative teaching methodologies by launching a continuous professional development program for Primary, Elementary and Secondary Level.
4. Directorate of Staff Development/Quaid-e-Azam Academy for Educational Development may prepare modules having literature in the areas of lesson planning skills, classroom practices and teaching methodologies for head of institutions and other teachers. Such type of modules and teaching material may also be provided to every school. Head of institutes may develop mechanism for onsite professional support to teachers as findings 22 to 42/conclusion 4 revealed that Training modules provided activities for Transformative Learning to Novice teachers.
5. Finding 43, 46, 49/conclusion 5 revealed that novice Elementary School Educators transformed themselves better than Senior Elementary School Educators and Secondary School Educators in context of classroom practices. It is recommended that Directorate of Staff development/Quaid-e-Azam Academy for Educational Development may take initiative regarding provision of onsite professional support program to Senior Elementary School

Educators and Secondary School Educators in the area of classroom practices. Government of Punjab may appoint Teacher Educators at Elementary and Secondary level to provide onsite professional support to Elementary and Secondary School teachers.

6. Findings 44, 47 & 50/conclusion 6 revealed that bachelor degree holder novice teachers transformed themselves better than master degree holders in the areas of lesson planning and classroom practices. Bachelor degree holder novice teachers also transformed themselves better than M. Phil. degree holder novice teachers in the area of classroom practices. School Education department may initiate mentoring mechanism at elementary and secondary level as high qualified teachers also need mentoring support. Head of institutes may also provide mentoring support to teachers of his institute.
7. Finding 45, 48 & 51/conclusion 7 revealed that M. Ed. degree holder novice teachers transformed themselves better than B. Ed. degree holder novice teachers in the area of classroom practices and teaching methodologies. It is recommended for Punjab School Education Department to work on enhancement of professional qualification of teachers. Punjab Government may announce incentive in this regard.

5.6 Further Researches

Few topics for further researches are suggested below:

1. Evaluation of professional development Program of Quaid-e-Azam Academy for Educational Development for Novice Educational Managers of Punjab.

2. Analysis of contribution of Professional Development Programs of in-service teachers toward quality of education.
3. Analysis of role of educational institutes in transforming society.
4. Role of teachers as Transformative leader: An experimental study.

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Appendix -A

Interview Schedule for Module Developers

I am a student of PhD (Education) and conducting research on "Evaluation of Professional Development of Novice Educators in the Context of Transformative Learning in Punjab". Your scholarly input will help to complete my thesis and will improve professional development programs in future. Your valuable information will be kept confidential and will only be used for research purpose.

Directorate of Staff Development Punjab organized four week professional development program for Novice Elementary School Educators, Senior Elementary School Educators and Secondary School Educators who were recruited in the years 2010- 2012 in Punjab Education Department. The modules were developed for this professional development program. Your good self was a part of module writing team.

Part A (Personal Information)

Name:……..... ….. Institute Name:……..

Gender:…… …… Age…….

Academic Qualification……. ….. Professional Qualification……..

Teacher Training Experience: ….. Module Writing Experience:…..

Part B (Module related information)

1. What were the objectives of this professional development program?

2. What previous experiences were expected from novice teachers regarding lesson planning? Which type of lesson planning was introduced to novice teachers through modules?

3. How novice teachers were guided to resolve conflicts regarding previous held lesson planning skills and newly introduced lesson planning skills?

4. With reference to lesson planning, which important areas were focused in the module?

5. What steps were proposed to analyze the lesson planning skills of novice teachers?

6. Which strategies were proposed to compare novice teachers' previous lesson planning skills with newly introduced lesson planning?

7. What types of activities were proposed in module for enhancement of lesson planning skill? What type of group work was proposed for this purpose?

8. Which strategies were proposed for extensive practice of lesson planning? What type of presentations novice teachers had to present in this regard?

9. Which steps were proposed for development of low cost instructional material related to lessons? How mutual cooperation among novice teachers was to be enhanced for this purpose? Which changes were expected from novice teachers regarding lesson planning?

10. Which teaching methodologies were already possessed by novice teachers? Which were newly introduced? What were expectations regarding feelings of novice teachers when going through the process of learning of new teaching methodologies?

11. How novice teachers were facilitated to differentiate among teacher-centered and student-centered teaching methodologies?

12. How the comparison of traditional and modern teaching methodologies was presented for novice teachers?

13. How novice teachers had to analyze the effectiveness of innovative teaching methodologies?

14. Which techniques were proposed for novice teachers to motivate themselves for effective teaching? How innovative teaching methodologies had to affect novice teachers' attitude towards teaching?

15. Which teaching methodologies were emphasized to adopt for meaningful teaching? How collaborative teaching was promoted in this regard?

16. Which new classroom practices were introduced in the module? Which practices were already being exercised?

17. How novice teachers were facilitated to resolve conflicts regarding classroom practices?

18. Which classroom practices were emphasized in the module to adopt them in real classroom situation? How these practices were compared with previous ones?

19. Which strategies were proposed to create environment conducive to learning?

20. Which activities were proposed for execution of classroom practices? How these activities helped novice teachers to change their beliefs towards teaching?

21. Which outcomes were expected from novice teachers in the result of professional development program?

Appendix-B

Interview Schedule for Master Trainers

I am a student of PhD (Education) and conducting a research "Evaluation of Professional Development of Novice Educators in the Context of Transformative Learning in Punjab". Your scholarly input will help to complete my thesis and will improve professional development programs in future. Your valuable information will be kept confidential and will only be used for research purpose.

Directorate of Staff Development Punjab organized four week professional development program for Novice Elementary School Educators, Senior Elementary School Educators and Secondary School Educators who were recruited in the years 2010- 2012 in Punjab Education Department. Your good self was a part of master trainer's pool.

Part A (Personal Information)

Name:……..... Institute Name:……

Gender:…… …….. Age:…….

Academic Qualification:…… Professional Qualification:……..

Teacher Training Experience: … Total Experience:…….…….. ..

Part B (Module related information)

1. What were the objectives of this professional development program?

2. What previous experiences were expected from novice teachers regarding lesson planning? Which type of lesson planning was introduced to novice teachers?

3. How novice teachers were guided to resolve conflicts regarding previous held lesson planning skills and newly introduced lesson planning skills?

4. With reference to lesson planning, which important areas were focused in training?

5. What steps were taken to analyze the lesson planning skills of novice teachers?

6. Which strategies were executed to compare novice teachers' previous lesson planning skills with newly introduced lesson planning?

7. What types of activities were performed for enhancement of lesson planning skill? What type of group work was proposed for this purpose?

8. Which strategies were executed for extensive practice of lesson planning? What type of presentations novice teachers had to present in this regard?

9. Which steps were taken for development of low cost instructional material related to lessons? How mutual cooperation among novice teachers was enhanced for this purpose? Which changes were observed among novice teachers regarding lesson planning?

10. Which teaching methodologies were already possessed by novice teachers? Which were newly introduced? How did novice teachers feel when going through the process of learning of new teaching methodologies?

11. How novice teachers were facilitated to differentiate among teacher-centered and student-centered teaching methodologies?

12. How the comparison of traditional and modern teaching methodologies was presented for novice teachers?

13. How novice teachers analyzed the effectiveness of innovative teaching methodologies?

14. Which techniques were adopted for novice teachers to motivate themselves for effective teaching? How innovative teaching methodologies affected novice teachers' attitude towards teaching?

15. Which teaching methodologies were emphasized to adopt for meaningful teaching? How collaborative teaching was promoted in this regard?

16. Which new classroom practices were introduced in the module? Which practices were already being exercised?

17. How novice teachers were facilitated to resolve conflicts regarding classroom practices?

18. Which classroom practices were emphasized for novice teachers to adopt them in real classroom situation? How these practices were compared with previous ones?

19. Which strategies were proposed to create environment conducive to learning?

20. Which activities were performed for execution of classroom practices? How these activities helped novice teachers to change their beliefs towards teaching?

21. Which outcomes were observed among novice teachers in the result of professional development program?

Appendix -C

Observation checklist for Novice Teachers

I am a student of Ph.D. (Education) and conducting a research on "Evaluation of Professional Development of novice teachers in the Context of Transformative Learning in Punjab". For this purpose, I intend to get relevant information to fill in this observation checklist from your good self. As a novice teacher, you attended this program. Your scholarly input will not only help to complete my dissertation but also to improve professional development programs. Your valuable information will be kept confidential and will only be used for research purpose.

Directorate of Staff Development Punjab organized a professional development program of four weeks for Novice Elementary School Educators, Senior Elementary School Educators and Secondary School Educators who were recruited in the years 2010- 2012 in Punjab Education Department.

Part A (Personal Information)

Name:……... Institute Name:……

Gender:…… ……. Age:…….

Academic Qualification:…….. Professional Qualification:……..

Designation:……. Length of service:……

District:…… Class observed:……..…...

Duration of observation:……..

Part B (Information regarding Professional Development program)

Sr.No.	Statement	Yes	To some extent	No
1	Student Learning Outcomes are focused by teacher in lesson plans.			
2	Motivational techniques are used by teacher during imparting instructions.			
3	Teacher comes in class with planned activities.			
4	Teacher actively interacts with students.			
5	Involvement of students is insured by teacher in			

	activities of lesson.			
6	Teacher delivers parts of lesson timely.			
7	Teacher manages class properly.			
8	Teacher uses low cost material as teaching aids.			
9	Teacher ensures conducive learning environment in class.			
10	Confidence building of students is focused by teacher.			
11	Individual differences of students are kept in mind by teacher.			
12	Creative work of students is focused by teacher.			
13	Feedback is provided to students properly by teacher.			
14	Teacher monitors student's activities properly.			
15	Students are rewarded by teacher on showing positive behavior.			
16	Home work is assigned properly.			
17	Teacher gives negative reinforcement to those students who do not do well in completing their assigned tasks.			
18	Teacher focuses on clarity of students' concepts.			
19	AV Aids are used by teacher properly in class.			
20	Learner centered methodology is used in classroom.			
21	Teacher uses teaching methodology according to demand of lesson.			
22	Teacher behaves professionally in class room.			
23	Teacher uses technique of peer review in class.			
24	Environment of group discussion is created by teachers in class.			
25	Teacher uses questioning techniques in classroom.			

Appendix -D

Questionnaire for Novice Teachers

I am a student of Ph.D. (Education) and conducting a research on "Evaluation of Professional Development of novice teachers in the Context of Transformative Learning in Punjab". As a novice teacher, you attended this program. Your scholarly input will not only help to complete my dissertation but also to improve professional development programs. Your valuable information will be kept confidential and will only be used for research purpose.

Directorate of Staff Development Punjab organized a professional development program of four weeks for Novice Elementary School Educators, Senior Elementary School Educators and Secondary School Educators who were recruited in the years 2010- 2012 in Punjab Education Department.

Part A (Personal Information)

Name:…….... Institute Name:……

Gender:……..Age:……..

Academic Qualification:……Professional Qualification:……

Length of service:…… District:…….

Designation:……

Part B (Information regarding Professional Development)

SA = Strongly Agreed

A = Agreed

UD = Undecided

DA = Disagreed

SDA = Strongly Disagreed

Please tick relevant option.

S. No.	Statement	SA	A	UD	DA	SDA
1	Master Trainers realized me about my improvement areas in lesson planning.					
2	Trainees performed activities for critical analysis about their previous lesson planning skills.					
3	Master Trainers taught essential steps of lesson planning.					
4	Master Trainers involved trainees in group activities related to lesson planning.					
5	Trainee helped peers to improve lesson planning during group activities.					
6	Master Trainers involved trainees in extensive practice of lesson planning.					
7	Trainees developed low cost instructional material with the help of trainers.					
8	Master Trainers focused on Student Learning Outcomes during lesson planning.					
9	Major focus was given to activity based lesson planning.					
10	I use self reflection to analyze my lesson planning skill.					
11	Training modules were helpful for me to improve lesson planning skill.					
12	After training, I come in class with planned activities now.					
13	Master trainer introduced trainees various teaching methodologies.					
14	The trainers strengthened my pedagogical skills of trainees.					
15	Master Trainers involved trainees in teaching methodology related group and individual activities.					
16	Master Trainers helped trainees to practice traditional and modern teaching methodologies.					
17	Master Trainers appreciated trainees to adopt activity based teaching methodologies.					
18	Training modules were helpful for					

	improvement in teaching skills.					
19	Master Trainers facilitated trainees to practice various teaching techniques.					
20	Master trainers inspired trainees to raise questions regarding teaching methodology.					
21	After training, the trainees use learner centered teaching in classroom.					
22	I use motivational techniques during my classroom instructions.					
23	I use AV Aids in class properly.					
24	I use teaching methodology according to demand of lesson.					
25	I keep in mind individual difference of students while taking class.					
26	I use technique of peer review in class.					
27	I create environment of group discussion in class.					
28	I focus on achievement of Student Learning Outcomes in class.					
29	Master Trainers introduced trainees from various classroom practices.					
30	Master Trainer appreciated trainees to practice new instructional techniques.					
31	Master trainer motivated to adopt modern effective class room practices.					
32	Trainee peers helped each other to adopt effective class room practices.					
33	Training modules helped in strengthening of concept of classroom practices.					
34	Master Trainers appreciated classroom interaction.					
35	Master Trainers practiced student assessment techniques.					
36	Master Trainers facilitated to evaluate the assignments and the projects of the trainees.					
37	Group activities strengthened classroom management skill.					
38	Master Trainers facilitated trainees to learn classroom management practices.					
39	After training, I feel pleasure to interact with my students.					
40	I am capable to create environment					

	conducive to learning.					
41	I build confidence of my students during discussion.					
42	I provide feedback to students properly.					
43	I assign home work regularly.					
44	I use effective assessing techniques.					
45	I reward students on showing positive behaviour.					
46	Activity Based lesson planning was not focused in training.					
47	Lesson plan related assignments were not useful for lesson planning skill.					
48	Master trainer did not strengthen my teaching methodology.					
49	Classroom practices were not focused in training.					
50	Training modules were not useful for trainees.					

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