

**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES**

**CURRENT TRENDS AND ISSUES IN THE PROVISION OF
IN-SERVICE TRAINING OF TECHNICAL AND
VOCATIONAL TEACHERS IN ETHIOPIA**



**BY
GETAHUN SILESHI ABEBE**

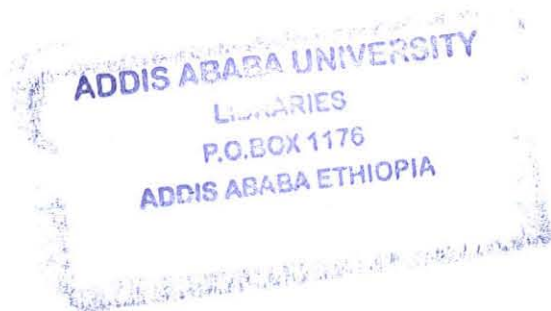
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**A thesis submitted to the School of Graduate Studies of
Addis Ababa University in partial fulfillment of the
requirements for the Master's Degree in Educational
Planning and Management**



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Table of Contents

	Page
Acknowledgements.	i
Table of Contents.	ii
List of Tables.....	v
List of Figures	vi
Abstract	vii
CHAPTER ONE: THE STUDY AND ITS APPROACH.....	1
1 Background of the Study.....	1
1.2 Statement of the Problem	3
1.3 Objectives of the Study.	6
1.3.1 General Objective	6
1.3.2 Specific Objectives	6
1.4 Scope of the Study.	6
1.5 Significance of the Study	7
1.5.1 Policy Significance	7
1.5.2 Academic Significance	7
1.6 The Research Design and Methodology	8
1.6.1 Method	8
1.6.2 Sampling	8
1.6.3 Sources of Data	9
1.6.4 Instruments of Data Collection.	9
1.6.5 Methods of Data Analysis.....	10
1.7 Limitation of the Study.....	10
1.8 Operational Definition of Terms.....	10
1.9 Organization of the Study	11
CHAPTER TWO: REVIEW OF THE RELATED LITERATURE.....	12
2.1 General Objectives of Technical and Vocational Education and Training	12
2.2 General Practices of TVET-teacher Pre-service Education and Training	13

2.3 Concepts of In-service Education and Training.....	15
2.3.1 What is In-Service Education and Training?	15
2.3.2. The Need for In-Service Education and Training.....	18
2.3.3. Training Methods and Types of In-service Training.....	22
2.3.4 Characteristics of Good Training and Factors Influencing Training.....	24
2.4 Incentives and Teachers In-Service Training	25
2.4.1. Some General Concepts Related to Training/Learning and Motivation/Incentive.....	26
2.5 Principles and Strategies in Designing In-Service Training.....	27
2.5.1 Purpose to be Served	28
2.5.2 Guiding Principles	29
2.5.3 Strategies for Training	32
2.6 A Systematic Training Cycle.....	35
2.6.1 Training Policy.....	36
2.6.2 Establishing Training Organization.....	37
2.6.3 Identifying Training Needs.....	37
2.6.4 Planning Training.....	39
2.6.5 Implementing Training.....	40
2.6.6 Evaluation of Training.....	41
2.7 International Practices of In-Service Education and Training Programs.	42
2.8. The State of TVET and Teachers' In-service Training in Ethiopia	43
2.8.1 Highlights on the Present Ethiopian TVET-system.....	43
2.8.2 Highlights on the Historical Background of Technical and Vocational Teacher Education and Training in Ethiopia.....	46
2.8.3 The Demand of Technical and Vocational Teachers.....	47
2.8.4 The Current Practices of Technical and Vocational Teachers' In-service Education and Training in Ethiopia.....	49
2.8.4.1 Short-Term Training Programs	49
2.8.4.2 Summer In-service Degree Program.....	50

CHAPTER THREE: PRESENTATION, ANALYSIS AND INTERPRETATION
OF THE DATA.....52

3.1 Characteristics of Respondents..... 53

3.2 Data Analysis and Implications..... 56

CHAPTER FOUR: SUMMARY, CONCLUSION, AND RECOMMENDATIONS.....83

4.1 Summary of Findings..... 83

4.2 Conclusion..... 88

4.3 Recommendations.....90

Bibliography 94

List of Tables

	Page
Table 1: List of Sample Colleges by Region-----	8
Table 2: Demographic Profile of the Participants -----	53
Table 3: In-service Training Continuity -----	57
Table 4: ANOVA Summary Table for In-college Training Activities-----	59
Table 5: Summarized ANOVA Table on Training Opportunities to Upgrade Qualifications -----	61
Table 6: In-Service Training Policies and Management Body in TVETs.-----	64
Table 7: Means, Standard Deviations and t-tests on Techniques Used in Needs Assessment.-----	67
Table 8: Factors that Influence Teachers' Participation -----	68
Table 9: Summarized ANOVA Table on the Different Aspects of Planning Process-----	69
Table 10: Training Budget-----	74
Table 11: Teachers Attendance Rate in In-service Training-----	75
Table 12: Types of Major Incentive.-----	77
Table 13: Summarized ANOVA Table on Trainees' Degree of Satisfaction---	78

List of Figures

	Page
Figure 1: The First Model: Recruiting Industry Staff and Training for Teaching--	14
Figure 1: The Second Model: Basic Industrial Teacher Training -----	14
Figure 3: The Third Model: Subject Experts as Teachers -----	15
Figure 4: A Systematic Training Cycle -----	36
Figure 5: Respondents by Age -----	54
Figure 6: Respondents by Qualification -----	55
Figure 7: Main Types of training Opportunities -----	58
Figure 8: Main providers of training Opportunities -----	63

Abstract

The main objective of this study was to assess current trends and issues related to the practices involved in the provision of in-service training programs of technical and vocational teachers in Ethiopia. It was also designed to provide a basis for making suggestions and recommendations for improving the effectiveness, efficiency, and quality of in-service training programs of TVET-teachers. The study particularly focused on addressing basic issues related to the practices used in the designing and implementation aspects of the programs. A descriptive survey method was employed for the study. Two hundred and twenty-five technical and vocational teachers were randomly selected from 9 TVET-colleges found in Tigray, Amhara, Oromiya, and Addis Ababa administrative areas to be the sample of the study. Fifty incidentally available leaders in TVETs at federal, regional and college levels were also included to be the subject of the study. Questionnaire and analysis of documents were used to collect information for the study. Two hundred seventy-five questionnaires were distributed and the return rate was 76.59% and 66% for teacher and leader respondents respectively. The collected data were coded and analyzed using SPSS computer program. Both descriptive and inferential statistics, including frequencies, percentages, means, standard deviations, and One-way ANOVA and independent sample t-test were used to analyze the data. The major findings were that in-service training of TVET-teachers 1) highly lacks policy requirements and 2) failed to address both the organization and individual training needs. The main recommendations were 1) TVET-colleges need to strengthen their relation with industries and service providers; 2) TVET-colleges need to take more initiatives to provide in-college trainings; and 3) Training needs should be thoroughly assessed.

CHAPTER ONE

THE STUDY AND ITS APPROACH

This chapter deals with the background of the study, statement of the problem, objectives of the study, significance of the study, delimitation of the study, limitation of the study, the research design and methods employed, operational definition of key terms, and organization of the study.

1.1. Background of the Study

The present situation of the rapid technological advancement and transformation through the entire world, coupled with the rapid growth and structural changes of the economy, are placing major new demands on the skills and capabilities of the labor force and, hence, on the country's educational and training system. The socio-economic growth of a country heavily relies, among many other things, on the development of technology and relevant skills of using the technology. In general, the level and quality of skills that a nation possesses is becoming critical. This fact necessitates the expansion and quality of technical and vocational education.

In this regard, as it has been clearly stipulated in the recent Ethiopian education and training policy (MoE, 2002), the development of technical and vocational education and training (TVET) has been given high priority. The policy emphasizes the need of expanding the vocational and technical training facilities, development of relevant curriculum, improving the standards and competences of technical and vocational teachers, and the complementary role of the private sector.

In consistent with the policy statements, the Ethiopian government undertook extensive efforts at restructuring the technical and vocational education and training system. The existing TVET institutions were strengthened and new ones have been established. For instance, only in the year 2000, the number of

technical and vocational schools was increased from 46 to 126 (MoE, 2002). However, the existing high schools were turned out to be TVET institutes with little or no retraining of teachers in related subject areas (Ethio-German strategy document 2003).

The educational reform required dramatically increased inputs, especially of technical and vocational teachers. As it is indicated in the Ethio-German strategy document (2003), on average, TVET teachers' competency and qualification were below the required level that was needed to implement and sustain the education reform under way. In response to these demands, according to this document, the government often with the support of GTZ and other international organizations has made large investments in teacher training. A huge training program for all technical and vocational teachers in the country was organized during the 2000 summer vacation. Moreover, a series of in-service training programs were offered to maintain and extend the professional competence of TVET-teachers since then.

However, despite the efforts made by government, non-government, and private sectors to develop both TVET institutes and technical and vocational teachers, assessments in the sub-sector have shown that the quality of training in TVETs remained poor (MoE, 2002:15).

There has been dissatisfaction with regard to the practical and theoretical ability of TVET-teachers. Official documents indicated that technical and vocational teachers lacked practical skills more than theoretical aspects of the subject they were teaching (MoE 2002, MoE 2003). Feedback reports of employers also indicated that the overall competency level of recent TVET-graduates is getting worse than ever before (see Appendix B).

Under such conditions, TVET-systems in the country could not be in a position to meet the new demands of the economy and the real world of work. In order to alleviate this problem, improvements are needed in teaching staff and school

managers, training programs and instructional methods, physical facilities, and utilization of staff and physical resources (MoE, 2003:7). In this regard, emphasizing the importance of teacher UNESCO (1990:22) has stated that:

The role of teachers in technical and vocational education and their training is a crucial issue, particularly in view of the rapid technological changes, which have necessitated an acceleration of in-service training to update and upgrade technical and vocational education teachers. This is particularly true for the high percentage of untrained teachers in practical subjects.

This study responds to the growing demand for new approaches in the designing, planning, implementation, and evaluation components of in-service training activities of TVET-teachers in Ethiopia. Rather than focusing on the description and evaluation of specific programs, the paper aimed at findings related to common practices exercised in the provision of in-service training of TVET-teachers. It is hoped that such a study will be helpful in designing future teacher retraining programs in diversified institutional contexts. The World Bank document (World Bank 2002) stresses the necessity of such a study when development and reform of TVET systems of a country are discussed.

1.2 Statement of the Problem

More than 73% of the existing TVET-teachers in Ethiopia were diploma graduates who were trained only for two years in higher colleges, a qualification which is less than the required level (MoE, 2005:130). Moreover, almost all of these teachers were trained under the previous curriculum where much emphasis was given to the theoretical aspects of the content rather than practical training (MoE, 2003).

Major efforts are underway by the government of Ethiopia to significantly improve the level of competency of 'the would-be-TVET-teachers' at higher institutions. However, the existing TVET-teachers need retraining for the better

implementation of the TVET program (MoE, 2002). To do so, one of the best alternatives is through in-service training (Harris, 1989:11).

Even though in-service teacher training system was introduced in the Ethiopian education system in the year 1971 (MoE & Fine Arts, 1971:4), many of the documents available did not do much by way of providing analyzed information on the practices of the in-service training programs conducted ever since.

So long as teachers make the crucial difference in the school operation, the in-service education and training will be vital concern (McBride, 1989). Emphasizing the importance of in service education for teachers, *Harris (1989:11)* stated that:

In-service education is to the school operation what good eating habits and a balanced diet are to human growth and vitality.... The heavy reliance up on people to perform nearly all tasks required for building and maintaining quality educational programs is a reality that can not be treated lightly. It is this reality that gives in-service education both its importance and its urgency.

According to *Harris (1989)*, if it were possible to run schools with less dependence upon personnel, in-service growth would be less essential. Were the competencies of TVET-teachers less complex in nature, limited in-service training might suffice. If a ready pool of highly competent people existed, improvements in education could be possible by firings and replacements with less reliance upon in-service education. If few changes in the operation of the TVET-system were required in the near future, in service education could be less of a concern. If the present certified technical and vocational teachers who are serving in our TVET institutes had all come through four or five year programs of pre-service preparation, in-service preparation might be less urgent.

However, none of these conditions seems to exist in the present, or are likely to occur in the near future in the Ethiopian TVET context. Significant improvement of TVET cannot be accomplished; it would seem, without a major programmatic effort at the in-service training of all teachers in TVET institutes.

The issue of TVET-teachers' training, however, has been a problem in all the countries involved in TVET development (World Bank, 2002). As the World Bank document indicated, serious attention has to be given in the training of teachers because teaching skills required in TVETs are more specific in nature. The World Bank document also emphasizes the need for establishing an improved training and retraining practices for TVET-teachers and instructors

The present study, therefore, attempted to find answers to the following research questions:

1. What are the main types of in-service training opportunities available for TVET-teachers?
2. Who are the major providers of in-service training opportunities for TVET-teachers?
3. How are in-service training programs of TVET-teachers planned, organized, and managed?
 - A) Are the programs planned in accordance with systematically identified training needs?
 - B) Are there the necessary organizational structures at different levels?
 - C) Is there a mechanism by which in-service training activities are evaluated?
4. What is the degree of satisfaction of TVET-teachers with the different aspects of in-service trainings?
5. Is there any incentive for TVET-teachers in relation to in-service training?

1.3 OBJECTIVES OF THE STUDY

1.3.1 General Objective

The purpose of this study was to assess current trends and issues related to the practices involved in the provision of in-service training programs of technical and vocational teachers in Ethiopia, and to suggest practical strategies that could possibly be used to improve or revise the system.

1.3.2 Specific Objectives

Based on the general objective and the stated research questions, the following were the specific objectives of the study:

1. To identify the common types of in-service training opportunities that are available for TVET-teachers and to examine and determine the level of their adequacy;
2. To examine the degree of involvement of concerned bodies in the provision of in-service training opportunities;
3. To assess common practices involved in the provision of the Ethiopian in-service training programs of technical and vocational teachers and identify areas that need improvement; and
4. To provide suggestions and recommendations for improving the effectiveness, efficiency, and quality of the Ethiopian in-service training programs of technical and vocational teachers.

1.4 Scope of the Study

The study was confined to Tigray, Amhara, Oromiya, and Addis Ababa administrative areas. Nearly 74 % of the total government TVET institutes and more than 53 % of technical and vocational teachers in Ethiopia are found in these administrative areas.

By the year 2006, there were 108 government TVET- institutes in Ethiopia that provide technical and vocational training at 10+1, 10+2, and 10+3 levels of training programs. However, only 17 TVET-colleges offer all the three levels of training programs simultaneously. As a result, TVET-colleges provide diversified courses, and have teachers that have diversified backgrounds. Therefore, the scope of the study was delimited to TVET-colleges and teachers in these institutes with the intension that their practices would provide good representation of TVET-institutes and teachers in TVETs.

1.5 Significance of the Study

This study was conducted to investigate current in-service training trends and related issues from the perspective of technical and vocational teachers and leaders in TVETs. It was designed to provide a basis for making suggestions and recommendations for improving the effectiveness, efficiency, and quality of in-service training programs of TVET-teachers. More specifically, this study has the following significances:

1.5.1 Policy Significance:

Although this study did not aim to evaluate the existing TVET-teachers' in-service training scheme, it could serve as a useful diagnostic tool in efforts to restructure the contextual and organizational aspects of TVET-teachers' current in-service training practices. Within the framework of public discussion on educational reform in Ethiopia, particularly with reference to the TVET sub sector, the findings of the present study could prove decisive for decision-makers in shaping in-service training policies accordingly.

1.5.2 Academic Significance:

The academic significance of this study is to provide comprehensive basis on the subject area to encourage others to undertake further study in future.

1.6 The Research Design and Methodology

1.6.1 Method

The focus of this study was to assess current trends and issues related to the practices involved in the provision of in-service training programs of technical and vocational teachers in Ethiopia, and then suggest recommendations that can possibly be used to improve the system. For this study, therefore, a descriptive survey method was employed because it is a major study approach up on which opinions, attitudes, suggestions for improvements of educational practices and instruction, and other data can be obtained.

1.6.2 Sampling

Out of the nine Regional States and two of City Administrations found in Ethiopia, Tigray, Amhara, Oromiya, and Addis Ababa Administrative areas were purposefully selected as the sample areas. This is because, as per the 2004/05 educational statistics of MoE, about 74 % of government TVET institutions and 53.72 % of TVET-teachers were found in these Regional States and City Administration.

Out of 17 TVET-colleges in the country, 12 were found in the aforementioned administrative areas. Of these 12 TVET-colleges, 9 (75 per cent) were chosen for the study using purposive sampling techniques to secure adequate and best information, taking in to account the geographical distribution of sample areas and variations in training programs.

Table 1: List of Sample Colleges by Region

No	College	Region
1	Adigrat TVET College	Tigray
2	Michew TVET College	Tigray
3	Combolcha TVET College	Amhara
4	W/ro. Sihen TVET College	Amhara
5	Assella TVET College	Oromiya
6	Hawas TVET College	Oromiya
7	A. A. Tegbareed TVET College	Addis Ababa
8	Entoto TVET College	Addis Ababa
9	General Winget TVET College	Addis Ababa

Regarding teacher respondent, a random sample of 225 subjects was selected (25 teachers from each of the 9 TVET-colleges) and was a representative of the population's gender, age, levels of training programs (10+1, 10+2, and 10+3), field of training (industrial, construction, and business), level of qualification, and years of teaching experience. Moreover, including deans and vice deans of the 9 sample institutes, fifty available leaders in TVETs at federal, regional and college levels were included to be the subjects of the study.

1.6.3 Sources of Data

The primary sources of data were technical and vocational teachers in TVET-colleges and leaders in TVETs such as deans, vice deans, bureau heads, experts, and team leaders at different levels.

To collect relevant information on the practices of in-service training in developed and developing countries and to enrich the study a variety of secondary sources such as books, journals, international research results through internet, reports, study papers presented on seminars and workshops, draft-study papers, strategic plans, related official documents such as policies were also used.

1.6.4. Instruments of Data Collection

To secure more reliable, adequate and first hand information from a large number of respondents, a questionnaire was prepared and used. The questionnaire was designed on the basis of local research outputs and reviewed literatures on technical and vocational teacher training, and consists of both closed and open-ended items.

The questionnaire was revised by experts and technical and vocational teachers who were believed to have good experience in the Ethiopian TVET-system and teachers' in-service training. To examine the questionnaire from the research point of view and to check item clarity, the instrument was also pilot tested on a small group (N=10) of technical and vocational teachers in Addis Ababa Tegbareed TVET-college. Based on the data obtained and the comments and

recommendation of the experts and teachers, revisions were made both to the basic questions and to the instrument.

1.6.5. Methods of Data Analysis

The collected data were coded and analyzed using SPSS (Statistical Package for Social Sciences) computer program. Descriptive statistics including frequencies, percentages, means, and standard deviations were used to analyze the data in order to answer the research questions. Moreover, data was further analyzed taking into consideration differences in qualification and demographic factors that could impact participants' responses. Therefore, analysis of variance [ANOVA] and independent sample t-test were conducted where respondents were grouped and sub grouped according to their job responsibility, region, and level of qualification.

1.7 Limitation of the Study

This study had several limitations. Specifically, it was restricted to TVET-colleges and it did not deal with all potential definitions or descriptions of in-service training. Further, the study employed only questionnaire because of time limitations to conduct interviews and other possible instruments. Moreover, the study utilized an adequate but limited sample from which to generalize the results. It was also very difficult to get adequate document regarding the short-term in-service training programs of TVET-teachers at all levels of educational administrations. However, these limitations are perceived as practical limitations and do not necessarily diminish the methods used nor the findings and conclusions reported.

1.8 Operational Definition of Terms

TVET -Technical and Vocational Education and Training
-Is an educational institute that provides Technical and Vocational Education and Training at diploma level to produce middle level trained manpower.

TVET-college - Technical and Vocational Education and Training College that provides training programs at 10+1, 10+2, and 10+3, levels.

Technical Training - Training which involves the development of specific skills that are needed to perform a particular job or series of jobs.

Trainee - A person who participates in technical and vocational education and training program provided by training institution with a view to acquiring or up grading his technical and vocational skills.

Competencies - the sum of all intersecting and interrelated aspects, abilities, behavior patterns, knowledge and skills of a trained person.

In-service Training - the development of the individual which arises from the whole range of events and activities by which serving teachers can extend their personal academic or practical education, their professional competence and their understanding of educational principles and methods.

Vocational Education - education designed to prepare skilled personnel at lower level of qualification from one or a group of occupations, trades or jobs providing them with problem solving capacity relation to the needs of the individual and the society.

1.9 Organization of the Study

This study is organized into four chapters. The first chapter deals with the problem and its approach. Chapter two consists the details of the review of the related literature. Chapter three is devoted to the presentation of the data, analyses and interpretations of the findings of the study. The summary, conclusion and recommendations are presented in chapter four.

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

This part of the study deals with a brief review of concepts related to the provision of technical and vocational teacher education. An attempt is made to assess global and local experiences related to the study.

2.1 General Objectives of Technical and Vocational Education and Training

It is obvious that the training and education-measures for technical and vocational teachers should reflect the general objectives and purposes of the technical and vocational education and training (TVET) system of the country. The general objectives and purposes that every TVET-system has to meet should be acknowledged and be addressed in the processes of designing both pre-service and in-service teacher-training programs of TVET- teachers.

Even though the general objective of one country's TVET system mainly depends on the general developmental goals of that country, there are some general worldwide agreements upon the purposes and objectives of TVET system. For instance, Walcoff (1978:4) has stated three general objectives and purposes of the TVET-system: *(1) meeting society's needs for workers, (2) increasing the options available to each student, and (3) serving as a motivating force to enhance all types of learning.* Likewise, ILO (1997) as cited by Yekunoamlak (2000:39) enumerated three objectives of vocational training:

1. *To satisfy the country's need for skilled man power by producing training in various skills at different levels*
2. *To make education a supportive tool for developing traditional technology and for utilizing modern technology;*
3. *To provide education that promotes the culture of respect for work, positive work habits and high regard for workmanship.*

Furthermore, (Gerds 2003) and MoE (2004) have stated that, every TVET has to:

- *provide marketable and employable qualifications for everyone who is able and willing to work*
- *facilitate the transition from school to work for all male and female school graduates, including those with incomplete general education*
- *supply suitable further training offers for upgrading and adjusting individual qualifications of the country's workforce on different levels in order to cope with changing and new demands of the labor market*
- *give inputs in the development of a growing economy and to create new jobs by fostering the chances of self-employment, including the informal as well as the modern sector*
- *provide the individual qualification and motivation of self-reliant and independent life-long-learning (Gerds, 2003: 5; MoE, 2000: 14).*

Likewise, the overall objective of the National TVET Strategy in Ethiopia (MoE 2006: 10) is stated as:

to create a competent, motivated, adaptable and innovative workforce in Ethiopia contributing to poverty reduction and social and economic development through facilitating demand-driven, high quality technical and vocational education and training, relevant to all sectors of the economy, at all levels and to all people in need of skills development.

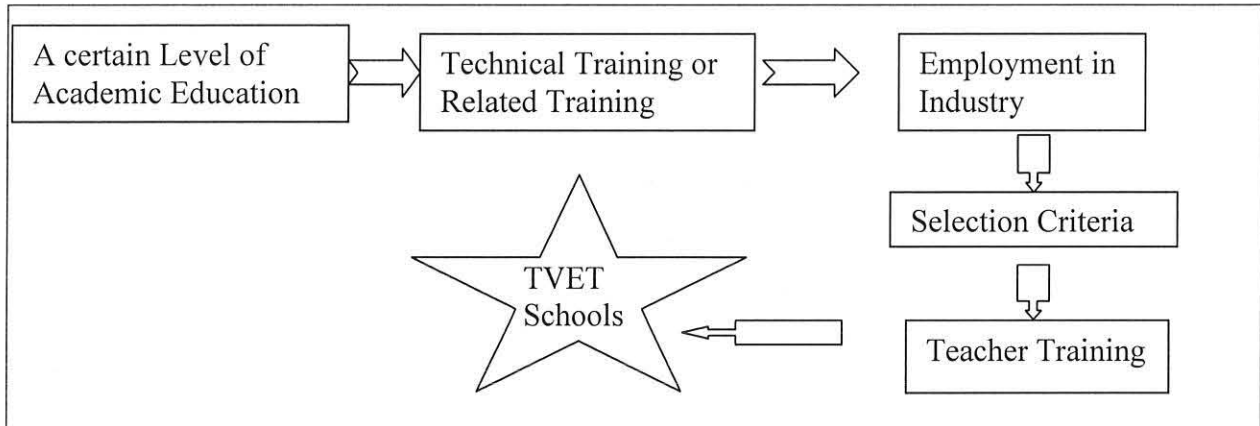
Evidently, striving to achieve these generally agreed upon goals brings a challenge not only to the present higher institutions that train TVET-teachers, but also to TVET-teachers. As to how pre-service and in-service TVET-teacher education and training programs should be organized and conducted, what components should be contained and practiced, and the degree of emphasis that should be given to each of the components have been issues that attracted the attention of scholar, teachers, practitioners and policy makers (UNESCO 1990; Gerds 2003; MoE 2004).

2.2 General Practices of TVET-teacher Pre-service Education and Training

The provision of pre-service technical and vocational teacher education and training takes different forms in different countries. UNESCO (1990, 1997) in

Mesfin (2002) has indicated that there are three possible models of technical and vocational teacher education. The first of these is "where appropriate people from industry who have been employed in their trade or profession for some years are selected" (Mesfin 2002: 16).

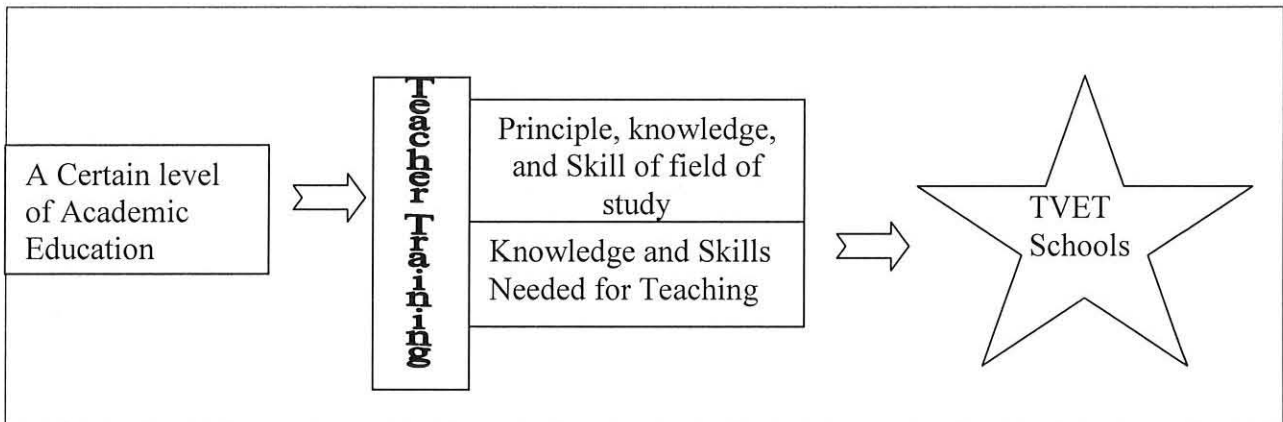
Fig.1 The First Model: Recruiting Industry Staff and Training for Teaching



Source: Mesfin, November 2002.

The second model is "where concurrent training is offered to a person through which the person is given the technical knowledge and skills needed for teaching, and pedagogical training at the same time"(Mesfin, 2002: 16).

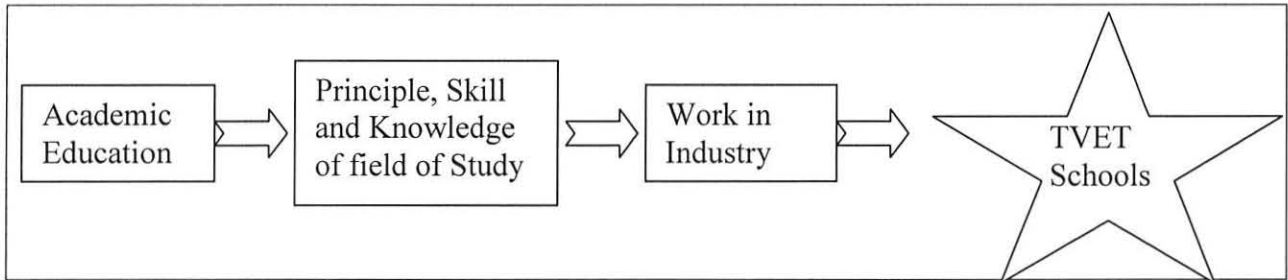
Fig.2. The Second Model: Basic Industrial Teacher Training



Source: Mesfin, November 2002, P. 16.

In the third model, “employees with some years of experience in a relevant work situation and who already have the necessary technical qualifications are brought into teaching” (Mesfin 2002: 16).

Fig. 3. The Third Model: Subject Experts as Teachers



Source: Mesfin, November 2002, P. 16.

Similarly, Gerds (2004:10-11) argue that, recruitment of TVET-personnel should not only be focused on fresh school-leavers and graduates from secondary education. Consequently, he suggested that, (1) secondary school graduates, (2) qualified national certificate holders, and (3) teachers with general subjects and with some years of industrial experiences, should be admitted at universities/colleges for TVET-teacher-training-programs.

Most of the developing countries, for example Ethiopia, follow the second model mentioned above.

2.3 Concepts of In-service Education and Training

2.3.1 What is In-Service Education and Training?

An extensive array of closely related terms has come into common use in referring to in-service education and training. According to Harris (1989), on-the-job training, renewal, staff development, human resource development, continuing education, professional growth, professional development, are the widely used terms, almost interchangeably, with the term in-service education and training. However, Harris (1989:18) defined and used the term in-service education to mean: "*any planned program of learning opportunities offered to*

staff members of schools, colleges, or other educational agencies for purposes of improving the performance of the individual in already assigned positions".

Similarly, Tilahun (1990) argued that the terms "in-service teacher education, in-service training, in-service education, professional development, staff development, continuing professional education, and continuing teacher education" are all used to designate education and training opportunities for education personnel. In spite of this, however, he defined the term in-service education as "a whole range of planned activities by which education personnel in active service have opportunities to further their education, develop their professional competence and improve their understanding of educational principles and techniques" (Tilahun 1990: 88).

Adams (1975:37) used the term in-service education to mean "the development of the individual which arises from the whole range of events and activities by which serving teachers can extend their personal academic or practical education, their professional competence and their understanding of educational principles and methods".

On the basis of the arguments indicated above, it is evident that there is no definite definition for the term 'in-service education', but there is a great deal of similarity in both concepts and terminologies used. These differences in terminology reflect varying traditions and conceptions, the exact meaning of which is sometimes difficult to pinpoint.

Education, Training and Development

Pertaining to human resource management, the terms commonly used in conjunction with the term 'in-service' are education, training, and development. Many authorities have attempted to offered different definitions for each of these terms, and yet many more others use these terms almost interchangeably (Megginson 1981, Salyadain1988, Harris 1989, Mondy 1999).

Megginson (1998), for example, has stated that the terms are only different aspects of the same idea, and difficult to distinguish between education, training, and development. However, he also attempted to find some distinctions between them. According to him, (1) training involves learning specific, detailed, and routine skills and techniques, (2) education is learning general subjects and broad, generalized knowledge, and (3) development is the systematic process of education, training and growing by which a person learns and applies information, skills, attitudes, and perceptions.

Nadler (1974) in Harris (1989) indicated that training, education, and development involve learning activities that are related to job, individual, and organization respectively.

Mondy (1999) as quoted by Haileselassie (1999), has described training as "those activities that serve to improve an individual's performance on a currently held job ", education as " activities that are conducted to improve the overall competence of an individual in a specific direction; and beyond the current job", and development as " learning opportunities aimed at the individual's growth" (Haileselassie, 1999:42 & 43).

Based on the arguments presented above and referring to Peter (1974), Turrell (1980), Beer (1984), Fred (1986), and Ramasamy (2002), the concepts in the definitions of the terms education, training, and development are summarized as follows.

Education

With regard to human resource management, the term education is defined to mean any long-term learning aimed at preparing individuals in a specific direction for a variety of roles. The focus of education is primarily on the individual's needs, and secondly on the organization/ societal needs as a whole.

Training

Training is understood as any learning activity that is directed towards the acquisition of specific knowledge and skills to better perform an occupation or work. Training is mainly designed to satisfy specific needs and the focus is the job or task.

Development

Development is also any learning activity which is directed towards future needs rather than present needs, and more concerned to career growth than immediate performance. The focus of development tends to be primarily on an organization's future manpower requirements, and secondly on the growth needs of individuals in the work place.

2.3.2. The Need for In-Service Education and Training

From 20-years of experience as a teacher in TVET-institutes and based on different relevant documents, the researcher comes to believe that there are a number of vital, urgent, crucial and challenging issues for the current TVET-system and TVET-teachers. Some of the main issues are discussed as follows.

Challenges Arising From the Rapidly Changing Technology

Many of the literatures, Gerds (2003, 2004), UNESCO (1990; 1997; 1999), Mondy (1999), indicate that the nature of jobs is being changed by the technological revolution. The pace of technological change makes teaching and training equipment become obsolete very rapidly. Scientific and technological progress also makes training programs (including teaching methods) in technical and vocational education obsolete at an ever-increasing pace. All these and probably many more other things are being changed, placing many-fold demand on the technical and vocational education. Stressing this point Mondy has stated, " The only constant in our lives is said to be change, and change is the force that brings about the critical need for training" (Mondy 1999: 257).

According to UNESCO (1990), the technological revolution will profoundly affect the structure and organizations of society, but the speed with which new technologies are adopted depends largely on the education and skill level of the workforce. Technical and vocational education is the connecting links between the school system and the employment market. The developments in technical and vocational education are intimately linked to general trends in the economy and the labor market and are particularly susceptible to the effects of technological change.

Mondy (1999) and UNESCO (1990) argue that technical and vocational education must respond quickly to all demands placed upon education systems, to provide students and other new client groups with new training programs geared towards new patterns of employment, skills and knowledge. In support of this idea Mondy has stated, "Skill requirements will continue to increase in response to rapid technological change. More complex equipment and processes will boost the need for more highly skilled workers" (Mondy 1999:255).

If technical and vocational training is to offer appropriate up-to-date training, related to technological changes and specific needs of industry and commerce, according to UNESCO (1999), the role of technical and vocational teachers and their training is a crucial issue. "The role of teachers is pivotal... Successful reform is realized by and through them" (OECD 1992, as quoted by UNESCO 1999:40). In supporting the key role of the teachers in TVET institutes, Yekunoamlak (2000:22) states "staff members in a school, particularly vocational teachers, play a major role in the teaching learning process and have a dual responsibility of teaching and practical involvement in the production activity".

Emphasizing the role of technical and vocational teachers and the need of in-service training with regard to the rapid technological changes, the UNESCO (1990) document has stated that, the role of teachers in technical and

vocational education and their training is a crucial issue, particularly in view of the rapid technological changes, which have necessitated an acceleration of in-service training to update and upgrade technical and vocational education teachers.

To sum up, the traditional assumption that initial education will serve a lifelong career of professional work is no longer acceptable. New technology demands the teaching of new science and engineering concepts and applications. The pace and implementation of technological change require frequent changes in courses and curricula. These, in turn, will call for a systematic approach to continuing technical teacher training (UNESCO 1990).

Challenges Related to Qualification

Recent government document from MoE (2005) reveal that only about 24% of the Ethiopian teachers who are involved in the teaching of technical and vocational schools have the necessary qualification. This means that the great majority of the present TVET-teachers are under qualified, obviously suffering in implementing what the curricula requires. As Mesfin (2002) has indicated, training new staff for the new technology is not always possible and not recommendable because it is very "expensive" and "unrealistic".

From the above argument, one can easily understand the degree of necessity of in-service training to TVET-system, and what 'in-service training' mean to the present under-qualified TVET-teachers.

Challenges Arising From Globalization

Each country's TVET-system is influenced by global economic competition. The country's economies and markets are part of the world market and trade. Whether countries want or not, they become influenced by a lot of demands of this world market and trade. And as well, the TVET-systems, which possibly can play a significant role in the processes of production and provision of goods

and services in the world of market and trade, will not be exceptional (UNESCO 1999; Gerds 2003). As Gerds (2003) did elaborate it, the main challenges for TVET-systems arising from this fact are: (1) increasing accountability of workers for their products and services, (2) increasing demand for workers on participating in shaping their work process, and (3) increasing demand on self-reliant and lifelong learning.

People in jobs, especially TVET-teachers who prepare people for jobs, have to learn continuously in the same way like people who are applying for new jobs. This is important to compete with the new applicants, and above all, to fit with the required competencies that the present job demands. They have to enlarge and enrich their knowledge and they have to acquire new knowledge (Gerds 2003).

As indicated earlier, changes in employment opportunities, occupational shifts and technological advancements place increasing demands on technical and vocational education. Now, more than ever before, it is essential to ensure the technical and vocational teachers possess appropriate, up-to-date knowledge and skills to meet the training needs of all students.

Challenges related to the absence of well-defined links with industries and services

The teaching-learning practice of technical and vocational education, as suggested by UNESCO (1990, 1999), must have some kind of link with industries. The necessity of such a link, as stipulated in this suggestion, does not only involve technical and vocational schools, but also technical and vocational teacher training institutions.

Seen in light of the above suggestion, the TVET schools in Ethiopia so far are not capable of accommodating and producing what is required of them due to

their internal efficiency and partly due to their lack of links with industries (Mesfin 2002).

Challenges Arising From Static Teacher Education and Training Programs

As suggested by Mesfin (2002), the provision of technical and vocational education and the curricula in it cannot be one of long lasting in this fast changing 21st century arena of technology. Programs prepared for both TVET schools and for TVET-teacher training need to keep the pace in the technological changes. "A teacher education program and curricula that does not keep up the technological changes out side, no matter how good it is for those who owe it, will be subject to failure in the long run" (Mesfin 2002, P. 13).

It is not always possible to training new staff for the new technology, and it is not recommendable to do so, due to the fact that it is "very expensive and unrealistic". Creating a system by which all the existing teachers can upgrade their skills and qualification from time to time, such as a continuous in-service training program, is "the easiest way to overcome such a problem with no doubt" (Mesfin, 2002:15).

To summarize, the teacher is the heart of the operation of schools. Money, materials, space, time, facilities, and curricula - all these are important, too. But at any point in the operation of schools - initially, in process, and ultimately -, the ability of the teacher to perform is crucial (Harris 1989, UNESCO 1990, Gerds 2003, MoE 2004). "In contrast with an automated operation, schools are heavily dependant upon human performance for nearly every aspect of their operation" (Harris, 1989:12).

2.3.3. Training Methods and Types of In-service Training

A variety of training methods are available and used. The choice of a method or a mix of methods is a function of a number of considerations. The purpose of training, the nature of contents, the level of trainees, and training cost are

some of the main considerations that have to be taken into account while deciding on the method of training to be used for a particular training program (Megginson 1981).

Types of trainings can broadly divided in to two, on-the-job training and off-the-job training. On-the-job training refers to learning activity while actually performing a particular work or job. Job rotation, on a specific job, special projects, and apprenticeship are some of on-the-job type trainings (T.Ramasamy 2001, Megginson 1981).

Under the off-the-job training system, a trainee is removed from his normal working place and spends his full time for training purposes in any other place. This type of training is often provided outside the organization, not in the working place (Ramasamy 2001:263). The following are some of the kinds of off-the-job training:

1. **Special course and lectures:** is some of the knowledge based training method. The basic concepts and theories, principles and pure applied knowledge of the particular subject are imparted to the participants. This type of training is aimed at giving fundamental information to the trainees.
2. **Conferences:** The concept of conference is developed to overcome the limitations of the lectures. Conference emphasizes on the one way of communication i.e., trainer to trainee. The trainees are expected to offer their ideas and use their experience for solving the problems with the help of the trainer. Small groups are formed for an intensive discussion of various subjects.
3. **Case duty:** This type of training is more useful to both business executives and management institutes.
4. **Role-playing:** role-playing technique is used in a group where different persons are given the role of different managers.
5. **Brainstorming:** is a technique used to idea generation. Ten to fifteen members are necessary to conduct brainstorming session. The same level of people is constituted into a group. The participants of the group are connected with a problem directly. Each member is asked to give more number of ideas to solve the problem, without any limitation.
6. **Experiential methods:** are designed to provide an atmosphere of self-learning through group interaction and dynamics. The purpose is to increase the sensitivity of the participants to their own functions as well as the functions of others in the group. The most common experiential method

is called sensitivity training, laboratory or workshop training. The prime objective of this methodology is to integrate knowledge and theory with experience and practice.

2.3.4 Characteristics of Good Training and Factors Influencing Training

Characteristics of Good Training

According to Harris (1989), Mondy (1999), and Ramasamy (2001), in order to get good results upon accomplishment of training programs, training programs should have the following characteristics.

- Good training programs should differentiate individual differences. There are a lot of differences among the employees in the learning capacity and the area of interest. So, the manager or training program organizer should consider these factors while framing the training program.
- The training program should be related to the job for which the training is designed.
- The need of training of employees should be identified and the method of training should be decided.
- Each and every training should produce favorable results to the organization.
- Some employees can undergo training very seriously. These types of persons should be identified. Next, adequate monetary as well as non-monetary incentives should be given to these persons.
- Top management people should show interest and support the training. If the top management supports the training, seriousness of getting training may be increased to some extent.

In general, in designing training programs, the designers should consider the learning capacity and interest of the individuals, the relevance of the training contents to the job requirements, types of training methods to be used, possible incentives, and other related things should be considered if the training program is meant to make a difference.

Factors Influencing Training

According to Mondy (1999), several factors influence training. How these factors are addressed often determines whether a firm achieves its training objectives. Some of the main factors that impacts training, according to Harris (1989), Mondy (1999), and Ramasamy (2001) are: Change in a system, commitment from trainees, technological advances, behavioral science knowledge, organizational complexity, learning/training principles, and strategies used in designing.

Emphasizing the influence of the support of management on training programs, Mondy (1999) has stated that training programs must have the full support of top management. This support, as Mondy (1999:225 & 289) has stated, " must be real - not merely lip service", and " the primary responsibility for training and development lies with line managers, from the president and chairman of the board on down".

2.4 Incentives and Teachers In-Service Training

Literatures show that teacher motivation is a crucial factor in achieving educational goals. Motivated teachers display interest in program improvement activities, feel self-efficacious, expand efforts to succeed, persist at tasks, and use innovative strategies to accomplish educational goals (Pintrich & Schunk, 1996).

Teachers who participate in in-service training programs have to be motivated. In support of this, Harris (1989) and Ramanamy (2001) indicated that special incentives should be provided whenever training activities or programs extend beyond the normal workday or year and negative incentive should be eliminated. According to Ramanamy (2001), motivation means use of incentives, and negative incentive means emphasizing penalties, like demotion and termination from the service.

As UNESCO (1990) indicated, the education systems of some countries even provide special incentives or benefits for technical and vocational teachers to control the exodus of the teachers from public TVET institutions. If some sort of incentives is not offered upon the accomplishment of certain type of upgrading or updating training program, the "exodus" of TVET-teachers may get worst.

A variety of incentives could be offered during ongoing training program or upon the accomplishment of the program to encourage full participation and motivate teachers. Depending on the purpose and type of the training program, released time, travel, expenses, college credit, certificate, bonus, and salary increment are some of the usual types of incentive offers (Harris 1989).

2.4.1. Some General Concepts Related to Training/Learning and Motivation/Incentive

There are some general concepts related to training and motivation that are very related to management of training programs. The concepts that follow are clearly related to the management and development of human resources. For example, as Mondy (1999) indicated, behavior that is rewarded or reinforced is more likely to recur. "As the security and success of most employees today lies in their level of knowledge and skills, the motivation to participate in and perform well in training programs should be easily obtained" (Migginson, 1981:215; Mondy, 1999:260).

According to Migginson (1981), and Mondy (1999), some general concepts (fundamentals related to learning principles) that can be applied to training or human resource development include:

- Behavior that is rewarded (reinforced) is more likely to recur.
- Training is most effective if it has positive motivation.
- Reinforcement, to be more effective, must immediately follow the desired behavior and be clearly connected with that behavior.

- Learners progress in an area of learning only as far as they need to in order to achieve their purposes.
- Individuals are more likely to be enthusiastic about a learning situation if they themselves have participated in the planning and implementation of the project.
- What is learned is more likely to be available for use if it is learned in a situation much like that in which it is to be used and immediately preceding the time it is needed.
- The best time to learn is when the learning can be useful. Motivation is then at its strongest peak.
- Providing continuous feedback on the learner's progress enhances learning. By tracking an individual's progress, a *learning curve* can be prepared to reflect the trainee's progress over a period of time. Knowledge of results permits managers to establish realistic goals for future training.
- Practice may not make perfect but it does make "better". Repeating the performance of a task is an almost certain approach for performance improvement.
- Continuous training is more effective than infrequent activities. However, depending on the type of training, a wise move may be to space the training session. For example, the period of time between training sessions for highly complex tasks may need to be increased to permit the learning to be assimilated.
- The trainers themselves must first be trained.

2.5 Principles and Strategies in Designing In-Service Training

Strategic considerations are much neglected in the thinking about quality in-service education (Harris 1989). According to Harris, planning, organizing, and implementing in-service programs must be guided by distinguished individual purposes and needs as well as fundamental guiding principles.

Accordingly, this part of the study attempts to offer a framework for thinking, at least, about relating purpose, principles, and strategies, in designing quality in-service training for TVET-teachers.

2.5.1 Purpose to be Served

Depending on the intended purposes, there are four types of in-service education and training programs: (1) competency development, (2) remediation, (3) specialized competency development, and (4) innovations (Harris 1989).

1. **COMPETENCY DEVELOPMENT:** This refers to in-service education and training that relate to the pre-service goals of the teaching profession. The development of a common core of generally accepted and widely employed competencies is the purpose. Such programs recognize the limited character of pre-service programs; they seek to assure more than survival levels of competence and eliminate deficiencies.

2. **REMEDATION.** This refers to the elimination of undesirable practices. The retraining or behavior-modifying approaches are called for.

3. **SPECIALIZED COMPETENCY DEVELOPMENT.** This refers to competencies that have importance to only a limited number of staff members because of unique position, role, or problem. Hence, they are sometimes advanced level of competence of generic kinds or truly different competencies.

4. **INNOVATIONS.** This refers to the special sequence of in-service education that must be associated with each systematic effort to introduce a significant change in the operation that also demands substantial change in people as well as structures.

According to Harris (1989), any individual staff member may need one or more kinds of in-service training, but any given training experience is *not* likely to serve more than a single purpose. Further more, programs of in-service education, planned with one or more of these four purposes in mind, is likely to be more effective if each purpose is clearly designed and appropriate plans developed accordingly.

2.5.2 Guiding Principles

Principles have their greatest utility in guiding specific practices based on the wisdom of the past experience. Without such guidelines, as Harris stated, "we can run the risk of reinventing the wheel and reliving past failures" (Harris 1989:29).

Various writers have proposed sets of operating principles as guidelines for in-service planning. Harris (1989) indicated that a surprising amount of similarity is found in the guidelines suggested by Edelfeldt (1976), Joyce and Showers (1983), and McLendon (1977), and the principles listed here (Harris 1989:30-33).

Clients Served

1. All personnel within a designated target organization or operating unit should be provided opportunities for in-service education.
2. No client should be required to participate in a specific program or session.
3. Different client groups (or individuals) should be recognized within any plan of a given program.
4. Individuals or groups should be designated as clients on the basis of rational and explicit relationships between needs and goals.
5. Groupings of clients should be developed to facilitate optimum learning.

Timing of Training

6. Time frames normally allocated for in-service programs should be part of the normal workload.
7. Special events, requiring substantial variations in normal workload, should be utilized sparingly.
8. Time allocation should allow for continuity of training experience.
9. Time allocation should allow for flexible use of time as needed.

Involvement

10. Clients should have opportunities to serve as planners, designers, managers, presenters, and evaluators.
11. Clients should be provided opportunities for making choices among alternative activities.
12. All personnel involvement should recognize needed competence.
13. Client perception of needs in relation to job realities should be criteria influencing involvement.

Locale(s) for Training

14. The location selected for training should reflect training requirements rather than preference.
15. The use of remote locations should be open options.
16. Cost/benefit ratios rather than simple cost figures should be used to justify remote locations.
17. Remote locations should be planned with pre-departure reentry activities to assure effectiveness.

Resources

18. Time should be provided to meet urgent needs and assure quality experiences.
19. Personnel, programs, materials, and other resources should be shared among various institutions providing training.
20. Funds for in-service education should be budgeted through normal channels regardless of source.
21. Costs associated with full participation should be fully defrayed without personal expense to clients.

Locus of Control and Decision

22. Those most directly affected should be most completely involved in decisions.
23. Control over various operations should be retained close to the people responsible.
24. Decision-making should involve all who have responsibilities.

Scope of Planning

25. Program plans should be clearly related to larger efforts at improving instruction.
26. Each school district, college, service center, state department, and other educational entity should have a comprehensive plan for in-service education.
27. Program schedules and timetables should provide for continuity, both within the program and among related programs.

Systematicness of Planning

28. Program planning should continue as implementation and process evaluation indicate needs for change, refinements, and additions.
29. Program plans should include statements of objectives that are specific in identifying the kinds of performance changes anticipated.

Design for Learning

30. The design of activity sequences and materials for use should provide for differentiated experiences.
31. The activities and materials should be designed to assure active, meaningful, and purposeful experience.
32. A great variety of activities should be planned which are both task oriented and reality based.

Content for Learning

33. Contents should be selected to reflect organizational development needs and those of individuals.
34. Contents should be identified that relate directly to job expectations of important kinds.

Incentives for Participation

35. Special incentives should be provided whenever activities extend beyond the normal workday or year.
36. Negative incentives should be eliminated.

Leadership

37. Responsibility for each major component of in-service programming should be clearly assigned.
38. Responsibilities for each major component should be assigned on the basis of available time, expertise, commitment, and involvement.

Evaluation

39. A planned, systematic evaluation effort should be part of any major in-service education.
40. Efforts to evaluate in-service education should be focused primarily upon identifying strengths, weaknesses, and possible improvements.
41. Objective data, free of biases and error, should be utilized for evaluation purposes.
42. Both short-term and long-term evaluation efforts should be planned.
43. The scope and complexity of the evaluation effort should be consistent with the extensiveness of the in-service education program.

Policies

44. Policy statements should clearly indicate that in-service education is both a right and a responsibility of all faculty and staff.
45. Policy should clearly provide for funding, staffing, and standard operating procedures.
46. Policy should provide for cooperative and collaborative relationships with colleges, service centers, and other selected agencies.

System Relationships

47. Program and personnel evaluation data should be utilized as databases for in-service education planning.
48. The unique contribution of in-service education to other program and projects should be clearly identified in planning and operating documents.

49. Other development programs should be adopted and planned so as to assure coordinated implementation along with in-service education programs.

2.5.3 Strategies for Training

When planning in-service education and training programs, it is more appropriate to review various strategic considerations bearing on the kinds of training provided and the overall quality of the experiences that results. According to Harris (1989), relationships between individual needs, the type of experience planned, and the intended outcomes from the program need strategic consideration.

Strategies on Worksite Experiences

The need to link in-service training to the work place and community is a chronic subject especially for teachers in TVETs. According to Brown (2000) and Finch (1999), cited in Maurer (2000) teachers who provide work-based learning for their students have a number of options for experiencing it themselves. In this regard, the following strategies are recommended to be considered in designing in-service training programs for technical and vocational teachers:

1. Internship, which enable teachers to participate in work activities to gain insights into workplace skill needs and identify real-life applications to bring to the classroom.
2. Externship, short-term experiences in which teachers observe how academic subjects are used on the job and identify potential sites for student work experiences.
3. Industry tours - coordinated visits to a number of worksites with follow-up discussions to reflect on the implications for classroom.

Maurer (2000) also listed detailed outlines of guidelines that could serve in designing and implementing in-service training.

1. The content of in-service training should focus on what students are to learn and how to address the different problems students may have in learning the material. Teachers can develop better teaching skills if only they are connected with what their students' learning strengths and difficulties are.

2. In-service training should be driven by analysis of the differences between goals and standards for student learning and student performance. It is only through analyzing these differences that educators can have a clear picture of what it is they need to learn.

3. In-service training should involve teachers in the identification of what they need to learn and the development of the learning process to be used. What better way to motivate educators to get involved in in-service training than making them an essential part of the process?

4. In-service training should be primarily school based and integral to school operations. By focusing on in-house problems and issues first, in-service training can be used as a team-building tool to enhance problem-solving skills collegiality among faculty.

5. In-service training should provide learning opportunity that relate to individual needs but are organized around collaborative problem solving. Not only does collaboration leads to the clarification of learning needs, but it also allows to for the sharing of knowledge and expertise among potentially diverse individuals.

6. In-service training should be continuous and ongoing, involving follow-up support for further learning, including support sources external to the school. Change and learning require time, ongoing collaboration, multiple level of support, and an influx of ideas from inside and outside the school environment.

7. In-service training should incorporate evaluation on outcomes and processes that are involved in the lessons learned through in-service training. Accountability of programs is important, both in terms of usefulness to teachers, but also how they affect student outcomes in the classroom.

8. In-service training should provide opportunities to engage in developing a theoretical understanding of the knowledge and skills to be learned. Teachers should be exposed to and updated on current research in the field. New theoretical constructs should not come as a surprise when they are introduced as part of an in-service activity.

9. In-service training should be integrated with a comprehensive change process that addresses the impediments to, and facilitators of learning. In-service training should not be separate cases of isolated events. In-service training should be included in a much larger school or district reform plan that addresses change on multiple levels.

Focus on Trainee

In-service training of a wide variety of kinds shares a common strategic concern for serving the "needs" of the trainee. Clinical supervision programs, for instance, are highly individualized and give extensive freedom to the trainee to influence the process. Personalized in-service training programs attempt to offer a unique service to each individual. Even large programs of supermarket or cafeteria design often serve to address individual trainee needs or interests as they offer choices in topics and alternative schedules.

Small group approach to in-service training may also be heavily influenced by strategic consideration for the individual participant. Groups that are small allow for more individual expression. Groups organized around common interests, needs, or affiliations emphasize the trainee as individual (Harris 1989).

Emphasis on Experiences

Each selected kind of experience or any combination of them has special advantages for training. As Harris (1989) has discussed, computer- assisted training, simulations, games, fieldtrips, laboratory exercises, and even discussion groups all have in common the emphasis on a particular kind of experience. The compelling character of the experience offers in-service participants unique opportunities that are often assumed to transcend individual needs. When the strategic emphasis is on selecting particular experiences, it minimizes concern for individual needs or preferences. But rich and varied experiences do accommodate divers needs.

Emphasis on Outcomes

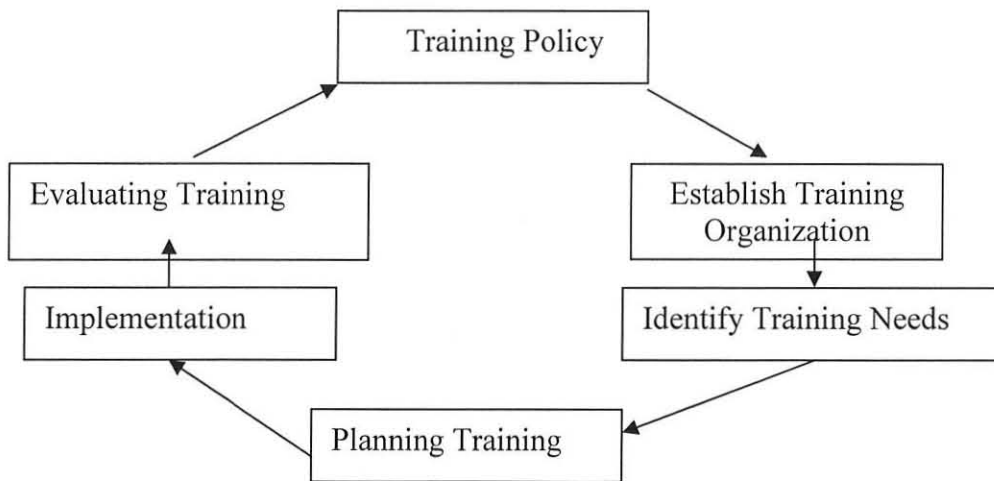
All in-service education and training programs are by definition concerned with learning outcomes (Harris 1989). However, the nature of those outcomes and the specificity with which they are emphasized are important elements of strategy.

With regard to this point, Harris (1989) has indicated that the greatest demands for strategic planning for in-service education and training are often found when outcomes involve complex changes in many aspects of behavior. Innovative programs succeed or fail for various reasons, but none appears more central than the demand for changes in roles, ways of thinking, self-concept, knowledge, skill, and relationships.

2.6. A Systematic Training Cycle

A systematic approach to training and development generally follows a logical sequence of activities commencing with the establishment of a policy and the resources to sustain it, followed by an assessment of training needs, for which appropriate training is provided, ending with some form of evaluation and feedback. Peter (1974), Turrell (1980), Beer (1984), Fred (1986), and Ramasamy (2002).

FIG. 4: A SYSTEMATIC TRAINING CYCLE



Source: Ethiopian Management Institute OD and HRM Department - handout

Generally, systematic training develops trained workforce that can improve standard of goods or services, probably in a more cost effective manner. The details of each of the components of a systematic training program are presented as follows:

2.6.1 Training Policy

The training policy of an organization will usually be included in a range of policies dealing with human resource management. The policy statement sets out what the organization is prepared to do in terms of developing its employees. Generally, a brief sentence in the policy statement could imply whether the training will focus on immediate learning needs related to current tasks and duties or training and development will be closely linked to short, medium and long-term business plans and will be seen as a vital element in the organizations ability to prove itself with its customers (Peter 1974).

2.6.2. Establishing Training Organization

The organization of training units mainly depends on the expectations of the organization from the training unit and the role of the training specialists. In small organizations, training specialist individuals are usually in charge of all "people" issues, and works as training program developers, presenters, and in some instances evaluators. As the size of the organization increases, a training unit consisting of a training manager, must structure the training operation for maximum productivity and ensure that the training program satisfy the policy requirements of the organization (Peter, 1974; Beer, 1984).

2.6.3. Identifying Training Needs

The first step of the training process is diagnosis of a problem. The problem will usually be a discrepancy between current/actual/ job or unit performance and desired acceptable performance. The cause of the discrepancy could be a number of factors, and training may not necessarily be the appropriate solution. But if training is the most suitable strategy for remedying the situation, its aim will be restore or improved job performance to a satisfactory level. On the other hand, discrepancy may be caused because of the introduction of new technology in which case the aim of training would be to enable employees to cop up with the changes so that performance remained satisfactory and discrepancies do not develop (Beer 1984).

Once the diagnosis made and training is selected as a means of overcoming the problem, the actual needs of a training program can be determined. The training need can be classified as individual need or group need (organizational need). Individual need may relate to orientation (induction), basic or remedial training to correct perceived faults, refresher training, or personal development. Group needs, on the other hand, refer to the need for a number of employees to change their behavior collectively (Mondy 1999; Beer 1984).

When in-service training is planned and focused upon teachers' needs, it is likely to be more effective, particularly when teachers are involved in the identification of what they need to learn and train and, when possible, in the development of the process to be used (Eraut 1995; Harland & Kinder 1997).

Types of Need Analysis

There are various techniques that can be used singly or in combination to analyze training needs:

- Formal or informal interviews (all levels);
- Observation of employees on the job;
- Formation of advisory committees;
- Formal research techniques;
- Conducting a need survey (using forms);
- Assessment centers
- A means of using simulation techniques to present shortcomings in employees job performance and assess the employee's future potential.

Steps in Assessing Needs

According to Turrell (1980), the process of identifying both individual and group needs can be described as a sequence of six basic steps:

1. **Study the organization culture (Organizational analysis):** Study the organization culture refers to factors such as types of industry, size of organization, growth patterns, profitability, technology, market situation, employees' cultures (background), beliefs, attitudes, and work place leadership styles. It is very important to study it because it can help trainers to assess how people may react to the introduction of training, what the organization is capable of achieving, and what

sort of "ground work" may be required to prepare development program.

2. **Study the job (Task analysis):** Studying the job involves the job description in terms of the job's technical features and demands (its level and role within the organization), and assessment of the knowledge, attitudes and skills required to successfully perform it.
3. **Forecasting change in the job:** Changes may occur in job demands, job design, and content. If this framework is to be used for proactive as well as reactive training, some forecasts of likely changes will be required, both of individual jobs and of the organizations structure of job.
4. **Determine essential knowledge, skill and attitude:** This step brings together the first three steps. The essential areas of knowledge, skills and attitudes required need to be determined from the information obtained and if the model is to be used for proactive training again future as well as correct requirements need to be determined.
5. **Assess current situation (Person analysis):** Assess actual levels of current skills, knowledge and experience rather than the desired levels identified in step 4. Attitude and behavior are relevant to this step too.
6. **Identify deficient areas:** This step is a comparison of steps 4 and 5, that is the gap between actual and desired levels of knowledge, proficiency, skills, behavior, experience and attitudes. The "deficiencies" should be ordered in terms of their importance, so that the most crucial ones receive top priority.

2.6.4.Planning Training

After identifying the training needs of individuals or groups in organization, planning becomes the third step to carry out systematic training. In planning,

questions like the following need to be answered to implement the training program (Peter 1974; Turrell 1980; Beer 1984; Fred 1986; Ramasamy 2002).

- What is the objective of the training?
- Who are the trainees?
- What should be the content of the training?
- Who should develop and conduct the training?
- Where should the training program be delivered?
- When should this training program be delivered?
- How should the training program be run?

If these questions are properly answered, then the implementation of the training program will be easily effected.

2.6.5. Implementing (Carrying Out) Training

The ultimate aim of the proceeding activities need to be followed by proper program implementation. If one fails to implement the plan properly, all the efforts made before will turn out to be ineffective exercises. Proper organization to carryout training requires due attention. In carrying out the training, trainers should always try whether the training is inline with:

- the set objectives and addressing the selected target group;
- the desired skill, knowledge or attitude to bring the expected change or meet the set standards;
- enabling people to exercise what they have acquired in the near or far future;
- trainees' satisfaction.

2.6.6. Evaluation of Training

Obviously, evaluation is intended to improve operations and can be accomplished in a variety of ways (Thompson 1975). According to Thompson, improvements need to be sustained by providing reinforcing evidence, which is quite different from "go-no go" decisions that are to be made on the basis of some overall assessment. Detecting defects in a program or session is still another focus for evaluation that is essential to improving the quality of training (Borich and Madden 1974).

Many of the writers on the field (Stufflebeam 1971, 1983; Megginson 1981, Harris 1989), emphasizes that evaluation of training programs must become an integral part of training policies and practices. Moreover, evaluation of training programs has to follow principles and procedures relevant to its purposes. In this regard, Harris (1989: 241) remarked, " by recognizing the specific purposes that can be served and selecting from among them, evaluation efforts are made more efficient and are simplified".

A Basic Evaluation Model

According to Harris (1989), a 'systems model' is widely advocated and seems especially appropriate for temporary systems like in-service education "where inputs, processes, and products are fairly clearly discernible and pre-determinable" (Harris 1989:250).

The '**inputs**' represents needs, resources, objectives, and people, which are introduced into the system according to purpose and plan. The '**process**' represents a complex of events, interactions, procedures, activities, and so on, which constitute the planned operation. The '**product**' represents outcomes anticipated and desired (Harris 1989: 250).

Instrumentation in Evaluating In-service Training Program

According to many of the literatures available, (Stufflebeam 1971, 1983; Megginson 1981, Harris 1989), instrumentation for in-service education and training program evaluation tends to be dominated by the use of simple questionnaires and discussions with participants (seminars). The participants themselves should indicate the overall activities of the program either in questionnaire or by recommendation. However, other approaches to data gathering as indicated by Harris (1989), include interviews, observations, artifacts, and tests.

2.7 International Practices of In-Service Education and Training Programs

According to the UNESCO (1990) document, while a number of industrialized countries have national policies for the continuing professional development of technical and vocational education staff, many do not. According to this document, national policies for the continuous professional development of teachers should focus on modular and distance/open-learning units of study, accreditation of staff development programs, computer-based learning and co-operative peer review, mentorship and integrated learning. However, many countries have yet to implement these initiatives for the professional development of technical and vocational teachers.

Many of international and local studies (Gerds 2003, 2004; Pukelis K. and Rimantas 2005; Cockrill and Peter 1997, Bunning 2002), on the provision of technical and vocational teacher education and training have remarked that the main parameters of TVET teacher education and training are professional standards for the TVET teachers, a consecutive model for TVET teacher education and training, and a curriculum for initial and in-service didactical education based on the professional standard.

According to these studies, a crucial role in more effective TVET teacher and vocational education lies in developing prior non-formal and informal learning assessment methodology, and tools targeted to measure concrete competencies indicated in the TVET teacher professional standards.

As it is clearly stipulated by Pukelis and Rimantas (2005), the program and curriculum for in-service education and training of TVET teachers depends on scientific, technological and pedagogical innovations, plus the acquisition of competencies targeted to higher vocational teacher category and to individual needs or interests. Hence, there could be three types of modules for in-service TVET teacher education and training:

- curriculum for developing strategic competencies that correspond to the latest strategic scientific and practical innovations;
- curriculum for developing competencies necessary for achieving higher qualification categories, described in the TVET teacher professional standards;
- curriculum for developing individual competencies, which indicates the TVET institution or teachers, personal development needs (Pukelis and Rimantas, 2005: 66-68).

2.8. The State of TVET and Teachers' In-service Training in Ethiopia

2.8.1. Highlights on the Present Ethiopian TVET-system

Technical and vocational education and training (TVET) in the Ethiopian education system was a neglected sub-sector (MoE 2002a, 2002b, 2004; Mesfin 2002). Until recently, Ethiopia used to have very few technical and vocational schools and training centers. By the year 2001, there were only 13 government and 10 non-government TVET schools enrolling 2631 and 1930 students respectively, and 25 newly established skill development centers enrolling 8156 trainees (MoE, 2002b).

The training and education provided in these few technical and vocational schools have never been satisfactory in terms of the quality of the skills exercised by the graduates. Few survey results made under the sponsorship of the Ministry of Education of Ethiopia and feedback from the employers revealed that the graduates from the technical schools lacked to have the skill and knowledge required by the employing industries (MoE 1982; 1995; 1995). To overcome this problem employers usually try to give some kind of in-service retraining (Mesfin 2002).

Following the 1994 Ethiopian education reform, major steps were taken by government to enhance the country's technical and vocational education and training (TVET) sub-sector. Starting the 2001/2002 academic year, an extensive restructuring and expansion efforts were undertaken. As the result of the restructuring and expansion efforts made, by the academic year 2001/2002, there have been 126 government-run and 40 non-government TVET institutes, and the total annual intake capacity reached 25,000 trainees (MoE, 2002b).

According to the Government document (MoE 2005), in the academic year 2004/2005, there were 108 government and 91 non-government TVET institutions in the country enrolling 106,336 students, out of which 63,046 were regular and 43,290 evening students. Government-run TVETs enrolled 45,417 regular students while 17,629 regular students were enrolled in non-governmental institutions.

The training centers offer training in more than 24 field of specialization including Accounting, Banking and Insurance, Marketing, Purchasing, Secretarial Science, Information Technology, Male Dress Maker, Food Preparation, Bakery and Confectionery Maker, Hotel Service, Hairdressing and Beautification, Drafting, Surveying, Wood Work, Road Construction, Building Construction, Electricity, Electronics, Auto Mechanics, General Mechanics, Machine Technology, and Law. There have been about 2749 male and 635

female (total 3384) TVET teachers during the academic year 2004/2005, and 75 per cent of them were qualified at diploma level or below.

The process of overhauling and reforming the basic framework conditions of the TVET-system, however, was slow and limited to certain areas of the system. According to the very recent draft document of government "National technical & Vocational Education and Training (TVET) Strategy" (MoE, 2006), all efforts and resources were directed towards the massive quantitative expansion of the public TVET supply. Most curricula used in formal TVET were developed without sufficient involvement of employers. Most of the training programs were of low quality and theory driven due to resource constraints and lack of skilled TVET teachers. Consequently, according to this document, training programs lack relevance to the work place reality, and do not address actual skills need in the economy. In general, "a systematic integration of TVET with the world of work has not yet been achieved" (MoE, 2006:8).

The Ethiopian education system in general, and technical and vocational education in particular, has never been without question. Almost all available studies in the area (MoE 1994a, 1994b, 2002a, 2002b, 2006; Mesfin 2002; Gerds 2003, 2004) indicate that there is, as always has been, dissatisfaction with regard to the practical ability of TVET graduates. Emphasizing this reality, the most recent government document states "...TVET graduates are currently not meeting the expectations and demands of economic sectors" (MoE, 2006:dede7).

Though the reason for such inefficiency can be attributed to a number of factors peculiar to each technical school (TVET), the problem of teacher inefficiency both in the skills of the vocations and in the ability of delivering these skills to the students/trainees is a problem that cuts across all of the TVETs and all fields of studies within the country (Mesfin, 2002). One of the reasons for this, as it is indicated in the "Ethiopian Education Sector Development Program II" document, is "insufficient number of qualified

instructors in the field" (MoE, 2002b:15 and 29). In support of this, the MoE (2006:9) document also has stated "The shortage of a sufficient corps of TVET teachers/instructors represents the most sever obstacle to TVET development in Ethiopia"

At present, to address the existing problems in the current TVET system and to improve the training programs on the basis of experiences learned and international trends, a draft of new strategic document on the national technical and vocational education and training sub-sector is under discussion.

Despite the frequent changes in the TVET system, it is hoped that, upon implementation, the new National TVET Strategy will give answers to many of crucial issues that could significantly improve the contribution of TVET to the country's "Accelerated and Sustained Development to End Poverty - (2005/06 - 2009/10)" plan.

2.8.2. Highlights on the Historical Background of Technical and Vocational Teacher Education and Training in Ethiopia

Even though modern education in Ethiopia was introduced in 1908 and teacher education for the elementary schools has been going on since 1944, the first technical and vocational school was established in 1941 (MoE and Fine Arts 1973; Girma, Mehari and Negatu 1994; Yekunoamlak 2000), much earlier than the establishment of teacher training institutions in the area. Foreign craftsmen and technicians, employed and volunteer expatriate teachers, Ethiopian graduates of foreign universities, were used to teach in the vocational and comprehensive secondary schools (Girma, Mehari and Negatu, 1994,).

The history of technical and vocational teacher education and training, in its modern form, began in Ethiopia only with the opening of the "Department of

Technical Teacher Education" in Addis Ababa University (the then Haile Sellassie I University) in 1967, and later with the opening of a similar department in Kotebe Teacher Training College in 1976, both at a diploma level (MoE 2004; Girma, Mehari and Negatu, 1994).

Although technical and vocational schools started in the country many decades ago, little effort was made to improve the training by way of developing the teacher education system until recently. The two technical and vocational teacher education departments (institutions) mentioned above remained to be the sole sources of teachers for the technical and vocational schools in Ethiopia for many years. The graduates of these departments, unlike graduates from other disciplines, were assigned to teach in both junior and secondary schools with their qualification at a diploma level (Girma, Mehari and Negatu, 1994), until the opening of new institutions such as Nazareth College of Technical Teacher Education in 1993 and others later (MoE, 2004).

The Present State

Nazareth College of Technical Teacher Education (NCTTE), which is promoted to university since January 2006 and now named Adama University (AU), was fully involved in training vocational teacher at both diploma and degree levels since its establishment in 1993 (AU 2006). In 2003, other four universities start delivering new degree programs for TVET teachers. At present, including Adama University, BahirDar, Dehub, Jimma and Mekelle Universities train TVE teachers in regular, evening, and in-service programs (BahirDar 2005; Dehub 2005; Jimma 2004; Mekelle 2005).

2.8.3 The Demand of Technical and Vocational Teachers

The Ethiopian TVET system suffers from both shortage and under-qualification of technical and vocational teachers. Lemma (1989), as cited in Tilahun (1990), has indicated that in 1985-86, only 6.3 per cent of the Ethiopian technical and

vocational teachers had met the required qualification. This figure doesn't seem to have improved significantly in the past decades. Recent government documents reveal that only about 24 per cent of the teachers who are involved in the teaching of technical and vocational schools have the necessary qualification (MoE, 2005).

The August 2006 "National Technical and Vocational Education and Training Strategy" draft document also confirmed this reality. According to this document, the shortage and the relatively low qualification of technical and vocational teachers are being severely affecting the delivery of TVET system in Ethiopia. This document stresses that the existing TVET teachers have inappropriate practical skills, for they were "(mostly) inappropriately practically skilled". Because of this, the document further argues, the existing TVET teachers are not competent to provide technical and vocational training in accordance with the occupational standards required by the market (MoE 2006).

As mentioned above, the demand for technical and vocational teachers does not seem only a question of qualification. According to the study "Analysis of the Present Middle Level TVET-Teachers and Predicting the Future demand in Ethiopia" (MoE, 2005), as cited in Nazareth (2005), the estimated number of additional TVET-teachers was 657 in 2005 and 1524 in 2006.

The number of required additional TVET-teachers will go increasing in the coming years, following the intended future expansion of TVET institutes in the country. It is indicated in the World Bank report (2004) on "Higher Education for Development in Ethiopia: Pursuing the Vision", cited in Jimma (2004), that the goal of the Ethiopia Government is to expand the intake capacity of TVET centers to absorb 40% of grade 10 school leavers (a total of 200,000 students annually) by the year 2012.

2.8.4. The Current Practices of Technical and Vocational Teachers' In-service Education and Training in Ethiopia

2.8.4.1 Short-Term Training Programs

As pointed out elsewhere in this study, starting the 2001/2002 academic year, an extensive restructuring and expansion efforts were undertaken by the government to enhance the country's technical and vocational education and training (TVET) sub-sector. As the result, within a year, the numbers of government schools were increased from 13 to 126 and the numbers of non-government TVET schools were increased from 10 to 40, enrolling 2631 and 1930 students respectively (MoE 2002b).

Following this reform in the sub-sector, with the hope of raising the technical and teaching skills of the available technical and vocational teachers/instructors, the Ministry of Education of Ethiopia has offered a number of short-term training programs and summer in-service degree program at a national level (Mesfin, 2002). Starting from early 2000, there were numbers of training programs offered during the summer vacation time, and even in Saturdays and Sundays.

The researcher of this study was participant in almost all of the training programs offered for technical and vocational teachers since 2000. The then Addis Ababa Technical School, Entoto Technical and Vocational School, and General Winget School were the main training centers for the training programs offered in Addis Ababa. Higher institutions such as Debrezeit Defense Engineering College, Nazareth College of Technical Teacher Education (now Adama University), BahirDar University, and Mekelle University were also used for the then "training campaign".

It will be appropriate to mention again here that training programs should be properly monitored, evaluated, and recorded in order to learn lessons from the

strengths and weakness of past experiences and to use for future references. Many of the writers on the field (Stufflebeam 1971, 1983; Megginson 1981, Harris 1989), emphasized that evaluation of training programs must become an integral part of training policies and practices.

2.8.4.2 Summer In-service Degree Program

Although the idea of in-service teacher training and continuous professional development is not new to Ethiopia, it has not been structured (MoE and Fine Arts, 1964 E.C; MoE, 2002c). In-service education and training for teachers has more than 40 years of experience in Ethiopia (MoE and Fine Arts, 1964 E.C). For instance, Addis Ababa University has been providing in-service education programs for primary school teachers since 1958, during the long vacation in July and August (Tilahun, 1990). And yet, it is at its infancy with regard to TVET-teachers.

There were only few higher educational institutions for TVET teachers in Ethiopia until recently. While who involved in general education were capable of moving up in terms of upgrading their qualification, almost all TVET teachers have been left without the chance for upgrading. As Mesfin (2002) has stated, many of the teachers in this sector of teaching suffered from hopelessness for many years in the past.

Recently, the Ministry of Education of Ethiopia has given a better emphasis to in-service training programs for teacher's professional development and upgrading (MoE 1994, 2002b, 2002c, 2003).

However, still many of the concerned recent Government documents did not address TVET- teachers' in-service education and training program well. For instance, the Ministry of Education has recently started a new program on teacher education called "Teacher Education System Overhaul (TESO)". Though two of the five areas of emphasis of TESO are "continuous professional

development" and "special upgrading programs", the policy had never addressed either the pre-service or the in-service education and training programs of TVET teachers. Similarly, the "continuous Professional Development Guideline", another document of the Ministry of Education of Ethiopia, also had never mentioned the strategy of in-service training programs for TVET teachers. But it is to be remembered that the TVET sub-sector is one of the priority areas of emphasis in the structure of the education and training policy and capacity building strategy of the country (MoE 1994, 2002b, 2004; MoCB 2004).

CHAPTER THREE

PRESENTATION, ANALYSIS AND INTERPRETATION OF THE DATA

This chapter deals with the analysis and interpretation of the collected data. The collected data were coded and analyzed using SPSS (Statistical Package for Social Sciences) computer program. Descriptive statistics including frequencies, percentages, means, and standard deviations were used to analyze the data in order to answer the research questions. Moreover, data was further analyzed taking into consideration differences in qualification and demographic factors that could impact participants' responses. Therefore, analysis of variance [ANOVA] and independent sample t-test were conducted where respondents were grouped and sub grouped according to their job responsibility, region, and level of qualification.

Two types of five-point Likert scales were used in the questionnaire. A five-point Likert scale (1= strongly disagree, 2= disagree, 3= fairly agree, 4= agree, and 5= strongly agree) was used to measure respondents' opinion to various question items. Another five-point Likert scale (1= completely unsatisfactory, 2= list satisfactory, 3= satisfactory, 4= highly satisfactory, and 5= completely satisfactory) was used to measure the degree of course-participants' satisfaction with the different aspects of their in-service training programs.

The calculated mean values of responses to the first type of Likert scale were interpreted as follows: Mean values from 0.05 to 1.49 = strongly disagreed; 1.5 to 2.49 = disagreed; 2.50 to 3.49 = fairly agreed, undecided, not sure; 3.50 to 4.49 = agreed; and mean scores above 4.50 = strongly agreed. However, rating point values were reversed for items that were stated negatively. The calculated mean values of responses to the second type of Likert scale were interpreted in similar manner.

In some cases, frequencies or percentages have been set in rank-order to show the degree of relationships among respondents in perceiving particular in-

service related problems or issues. Moreover, question items that involved responses in rank order were tabulated in inverse weightings and described in terms of total weighted scores, the largest total having the most popular.

3.1 Characteristics of Respondents

Table 2 below shows the demographic profile of the participants. Respondents were from three regional and one-city administrator areas, namely, Tigray, Amhara, Oromiya, and Addis Ababa.

Table 2: Demographic Profile of the Participants

Item No	Item		Respondents group				Total	
			Teachers		Officials		No	%
			No	%	No	%		
1	Region	Tigray	35	20.23	6	18.18	41	19.90
		Amhara	39	22.54	7	21.21	46	22.33
		Oromiya	36	20.81	9	27.27	45	21.84
		Addis Ababa	63	36.42	11	33.33	74	35.92
	Total	173	100.0	33	100.0	206	100.0	
2	Sex	Male	137	79.19	29	87.88	166	80.58
		Female	36	20.81	4	12.12	40	19.42
	Total	173	100.0	33	100.0	206	100.0	
3	Age	21-30	37	21.4	0	0	37	18.0
		31-40	25	14.5	4	12.1	29	14.1
		41-50	87	50.3	27	81.8	114	55.3
		51 and above	24	13.9	2	6.1	26	12.6
		Total	173	100.0	33	100.0	206	100.0
4	Qualification	Diploma	96	55.49	-	-	96	46.60
		Bachelor	34	19.65	32	96.97	66	32.04
		Masters	2	1.16	1	3.03	3	1.46
		Others	41	23.70	-	-	41	19.90
	Total	173	100.00	33	100.00	206	100.00	
5	Teaching Experience	1 year and less	3	1.73	-	-	3	1.46
		2-5	18	10.40	19	57.58	37	17.96
		6-10	32	18.50	12	36.36	44	21.36
		11-20	67	38.73	2	6.06	69	33.50
		21 and above	53	30.64	-	-	53	25.73
	Total	173	100.00	33	100.00	206	100.00	

Of the total 206 respondents, 173 (83.98 per cent) were TVET-teachers and the remaining 33 (16.02 per cent) were leaders in TVETs at different levels, such as bureau heads, deans, vice deans, experts, and team leaders.

From the total 173 TVET-teachers, 35 (20.23 per cent) were from Tigray, 39 (22.54 per cent) were from Amhara, 36 (20.82 per cent) were from Oromiya, and 63 (36.42 per cent) were from Addis Ababa. Likewise, the leader respondents were 6 (18.18 per cent) from Tigray, 7 (21.21 per cent) from Amhara, 9 (27.27 per cent) from Oromiya, and 11 (33.33 per cent) were from Addis Ababa.

The majority, 79.19 per cent of TVET-teacher and 87.88 per cent of leader respondents were males, and more than 68 per cent of teacher and 87 per cent of leader respondents were above 41 years old.

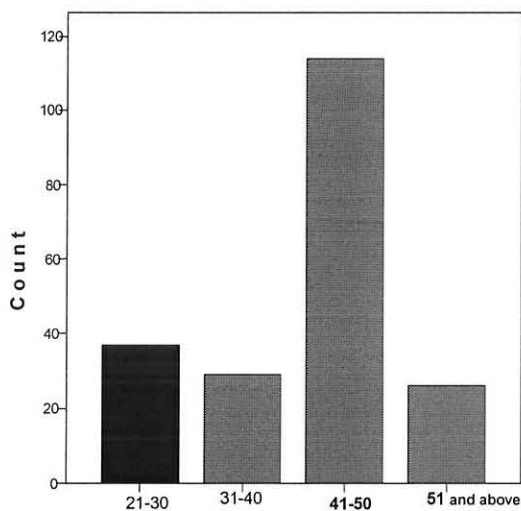


Fig. 5: Respondents by Age

With regard to their educational background, almost all (97 per cent) of the leader respondents were bachelor degree holders. However, only 20.81 per cent of the total teacher respondents have bachelor degree or above. The remaining 79.29 per cent of the teacher respondents were either diploma holders, or have diploma plus some years of summer in-service training in higher institutions.

The Ethiopian Education and Training Policy (MoE 1994) has stated that teachers in TVET-colleges need to have first degree. However, this finding clearly indicates that the majority of teacher respondents were not qualified to the required level.

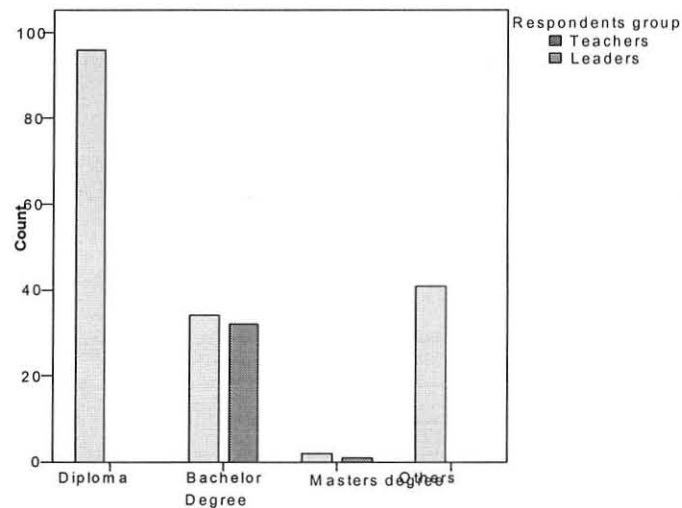


Fig. 6: Respondents by Qualification

Almost all leader respondents have more than two years of work experience at the present position. The teaching experience of the great majority (88 per cent) of TVET-teacher respondents exceeds 5 years.

To sum up, the study population shared the desired variety of profiles that were appropriate for this study. No demographic sub categories and characteristics were under represented. Therefore, the conclusion could be drawn that almost all of the respondents have some years of teaching experience, first hand information, and fresh memories related to their in-service training programs offered so far at any level. The respondents can be considered to be at their best position to provide the required information about what exists on the ground for the topic under discussion, so their opinions can be accepted as valid and reliable.

3.2 Data Analysis and Implications

Industrial Experience of TVET-teachers

TVET-teachers are expected to have some years of practical experience in the real world of work in order better develop their practical skills and competences related to the subject area they are teaching (UNESCO 2005). In this regard, respondents were asked whether they had work experience in industries or service provider organizations. However, only two (1.16 per cent) of the respondents had work experience in industries or service provider organizations for not more than a year.

From this finding, it is possible to conclude that technical and vocational teachers in TVETs did not have industrial experiences at all. Furthermore, document analysis and data obtained showed that neither the pre-service nor the in-service education and training programs of technical and vocational teachers did much in this regard. Therefore, teachers in TVETs lacked firsthand information and knowledge about what was required in the real world of work in relation to the course objectives of the subject they were teaching.

However, the variety, wide-ranging spectrum and rapid changes of technical and vocational occupations and jobs will be reflected more reliably by vocational and technical college programs if the teachers have sound own industrial experience and an access of understanding to the world of labor which is quite different from academic studies (UNESCO 1999). The teaching-learning practice of technical and vocational education, as suggested by UNESCO, must have some kind of link with industries. The need to link in-service training to the work place and community is a chronic subject especially for teachers in TVETs (Maurer 2000). Industrial placement is one of the most important elements of any technical training, especially for TVET-Teacher Training (Gerds 2003).

Seen in light of the above suggestions and international experiences, however, what we have in Ethiopia is almost none. Technical and vocation education and training (TVET) is more expensive sub sector of the education system, so it requires a joint effort of all stakeholders, including employer industries and service provider organizations for its success (MoE 2006). Nevertheless, the objective reality of the country indicates that the existing few industries and service providers are not well aware of the significant role that they could play in this regard. In addition, there was no rule and regulation set for integrating the country's TVET-system with industries and service providers (Gerds 2003).

Training Continuity, Opportunities, and Providers

Respondents were asked to indicate the last time they attended in-service training, write some of the main types of training they had attended and the main providers of the training programs.

When respondents were requested to indicate the last time they attended in-service training, more than 93 per cent of teacher and all of leader respondents have confirmed that they had in-service training opportunities within the past 3 months or so (See Table 3 below).

Table 3: *In-service Continuity*

		Respondents group				Total	
		Teachers		Leaders		No	%
		No	%	No	%		
Last In-service	3 months and below	130	75.14	33	100.00	163	79.13
	6 months	31	17.92	-	-	31	15.05
	1 year	7	4.05	-	-	7	3.40
	2 years and above	5	2.89	-	-	5	2.43
Total		173	100.00	33	100.00	206	100.00

This finding confirmed that, as the Ethio-German strategy document (2003) has stated, the government has recognized the importance of in-service training to develop teachers' competences, and indicated that the continuous nature of in-service training. People in jobs, especially TVET-teachers who prepare people for jobs, have to learn continuously in the same way like people

who are applying for new jobs. This is important to compete with the new applicants, and above all, to fit with the required competencies that the present job demands. They have to enlarge and enrich their knowledge and they have to acquire new knowledge (Gerds 2003).

Respondents were also requested to write different types of in-service activities that they were attended in the past few years. Figures 7 and 8 depict the summary of the major training types and main actors in the provision of the training opportunities respectively, as the respondents listed them.

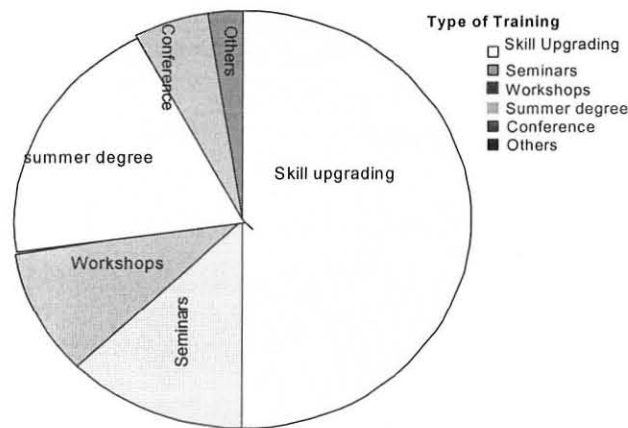


Fig.7: Main Types of Training Opportunities

One-hundred sixty-one (93.06 per cent) teacher respondents stated "skill-upgrading" and/or "skill-updating" as the type of training most often offered to vocational teachers. One-hundred thirty-seven (79.19 per cent) and 41 (23 per cent) teacher respondents cited "Workshop" and "Summer-in-service degree program" respectively as the second and third most often available types of training opportunities.

"Seminars", "Conferences", and "workshops" were favored by 13 (39.39 per cent), 8 (24.24 per cent) and 7 (21.21 per cent) leader respondents respectively as the first, second and third main types of training opportunities available. (Note:

these figures are not mutually exclusive, thus equaling more than 100 per cent). Training activities such as mentoring, induction, coaching, action research, experiential methods, and brainstorming types of continues professional development activities (Harris 1989) were not mentioned. In general, the type of training most often offered to TVET teachers was more practical and aimed at the development of technical competences of technical teachers.

An effort was also made to examine the practices of TVET-colleges in utilizing possible opportunities available in the colleges for the purpose of professional development of TVET-teachers. The ANOVA summary Table for in-college activities is presented below.

Table 4: ANOVA Summary Table for In-college Activities

Item No	Activity	Respondents: Teachers, N =173, Leaders, N=33Total N=206	Means	Std. Deviation	ANOVA	
					F	P
1	Induction (Introduction of new teachers)	Teachers	3.91	.834	.879	.350
		Leaders	4.06	.788		
		Total	3.94	.827		
2	Opportunities to observe classes of model teachers	Teachers	3.21	.935	.232	.630
		Leaders	3.30	1.468		
		Total	3.22	1.035		
3	Help and assistance from senior teachers	Teachers	3.13	1.062	.062	.804
		Leaders	3.18	.882		
		Total	3.14	1.033		
4	Consult with higher institutions	Teachers	2.65	.861	.421	.517
		Leaders	2.55	.617		
		Total	2.63	.826		
5	Share experiences with teachers in neighboring colleges	Teachers	2.77	1.107	.157	.693
		Leaders	2.85	.755		
		Total	2.78	1.057		
6	Practically exercise in industry	Teachers	2.49	.744	.670	.414
		Leaders	2.61	.704		
		Total	2.51	.737		

F= calculated f-value

p= p value at 0.05 level

Note: Respondents rated each statement on a scale of 1 to 5, where 1=completely disagree, 2=disagree, 3=fairly agree, 4=agree, and 5=completely agree.

As the analysis of variance in Table 4 revealed, there is no statistically significant difference between the mean scores of teacher and leader respondents at p value 0.05 regarding the items listed in. This indicates that both teachers and leaders in TVETs had nearly similar perception regarding the practices of TVET-colleges in utilizing possible in-colleges activities for professional development of technical and vocational teachers in TVETs.

As indicated in item 1 of Table 4, both teacher and leader respondents agree (M=3.94, SD=.827) that orientation programs had been formally arranged to introduce newly assigned teachers to the college community and environment.

However, collectively, both groups of respondents were uncertain about the availability of many of the activities listed in Table 4 in TVET-colleges. For instance, respondents only fairly agree (M=3.22, SD=1.035) that TVET-teachers have practices of observing classes of model teachers. There is some hesitation in respondents (M=3.14, SD=1.033) regarding accessibility of help and backing from senior and experienced teachers. Both groups of respondents were not sure enough whether teachers in TVETs have the experience of consulting higher institutions when necessary (M=2.63, SD=.826), or share experiences with teachers in neighboring colleges (M=2.78, SD=1.057). Moreover, respondents were not confident (M=2.51, SD=.737) whether TVET-teachers have chances to practically exercise in industries or in service provider organizations.

These findings, in general, ascertained that teamwork and the custom of experience sharing within and between TVET-teachers and colleges were yet not practiced to the satisfactory level. However, Maurer (2000) has stated that in-service training should be primarily school based and integral to school operations. According to Maurer, by focusing on in-house problems and issues first, in-service training can be used as a team-building tool to enhance problem-solving skills collegiality among faculty. Furthermore, in-service training should provide learning opportunity that relate to individual needs but

are organized around collaborative problem solving. Not only does collaboration leads to the clarification of learning needs, but it also allows to for the sharing of knowledge and expertise among potentially diverse individuals.

In another part of the questionnaire, respondents were also asked to indicate whether TVET teachers have access to alternative training opportunities to upgrade their qualification.

Table 5: Summarized ANOVA Table on Training Opportunities to Upgrade Qualifications.

Item No	Item	Respondent Groups	N	Mean	Std. Deviation	ANOVA	
						F	P
1	TVET-teachers have adequate opportunity to upgrade their qualification through evening classes	Teachers	173	2.84	1.228	.002	.963
		Leaders	33	2.85	.834		
		Total	206	2.84	1.172		
2	TVET-teachers have adequate opportunity to upgrade their qualification through summer in-service programs.	Teachers	173	3.84	1.059	.113	.737
		Leaders	33	3.91	.765		
		Total	206	3.85	1.016		
3	TVET-teachers have adequate opportunity to upgrade their qualification through distance education programs.	Teachers	173	2.60	.654	.538	.464
		Leaders	33	2.70	.847		
		Total	206	2.62	.687		
4	TVET-teachers have adequate opportunity to upgrade their qualification through arranged classes along with teaching	Teachers	173	2.80	.952	.051	.822
		Leaders	33	2.76	.867		
		Total	206	2.79	.937		

F= calculated *f*-value

p= *p* value at 0.05 level

Note: Respondents rated each statement on a scale of 1 to 5, where 1=completely disagree, 2=disagree, 3=fairly agree, 4=agree, and 5=completely agree.

Table 5 illustrates the perception of TVET-teacher and leader respondents to the adequacy level of alternative in-service training opportunities for TVET-teachers to upgrade their qualifications. The data revealed (M =3.02, SD =1.143) some uncertainty about whether training opportunities through evening classes, summer in-service programs, distance programs, and systematically arranged classes along with teaching, collectively, were adequate for TVET-teachers to up-grade their qualification.

However, when examining the individual items, summer in-service program (M=3.85, SD =1.02) appeared to be the only moderately adequate access TVET-teachers have to higher educations to upgrade their qualifications. The remaining types of training opportunities such as evening classes (M=2.84, SD=1.172), distance program (M=2.62, SD=.687), and classes that possibly could be arranged along with regular jobs (M=2.79, SD=.937) were rated low.

These findings indicated that alternative types of training opportunities for TVET-teachers to upgrade their qualification were either not exercised by the TVET-teachers or they were not available at the reach of technical and vocational teachers in TVETs. According to Harris (1989), any individual staff member may need one or more kinds of in-service training, but any given training experience is *not* likely to serve more than a single purpose. Moreover, as Mesfin (2002) has indicated, though the short-term training may be relevant in curbing some current problems such as filling gaps in available spaces, their use in alleviating the problem of under qualification is insignificant.

Training Providers

In the attempt made to identify the main providers of in-service training opportunities for TVET-teachers, MoE was cited by more than 92 per cent of respondents as the major sponsor of many of the programs. The shares of regional education bureaus and TVET-colleges in the provision of in-service training opportunities for TVET-teachers, as confirmed by both teacher and leader respondents and indicated in Figure 8, were almost insignificant.

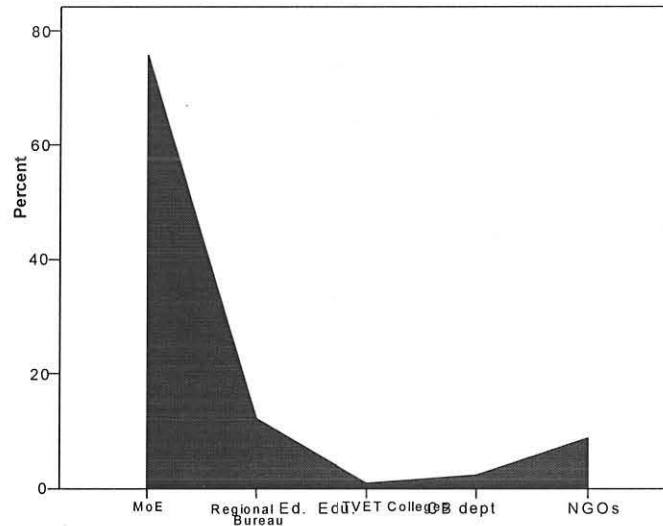


Fig. 8: Main Providers of Training Opportunities

This finding is highly consistent with the previous finding regarding the involvement of TVET-colleges in the provision of in-service training for TVET-colleges. In general, TVET-colleges did not take the initiatives to provide in-service training for TVET-teachers.

Policies and Organizational Structures

Attempts have been done to examine the different aspects of in-service training programs such as policies, guidelines, management, budget, needs-assessment, planning and evaluation.

In the attempt made to examine the accessibility of in-service training policies and organizational structures in the TVET sub sector, respondents were asked whether there were a clear in-service training policies and guide liens at national, regional and college levels that refers to technical and vocational teachers in TVETs.

Table 6: *In-Service Training Policies and Management Body in TVETs.*

Item No	Item	Respondents group				Total (N=206)		ANOVA	
		Teachers (N=173)		Leaders (N=33)		M	SD	F	P
		M	SD	M	SD				
1	There are clear in-service training policies and guidelines for TVET-teachers at national level	2.85	1.040	3.61	.864	2.97	1.050	15.403	.000*
2	There are clear in-service training policies and guidelines for TVET-teachers at regional level	2.66	1.003	2.67	.854	2.66	.978	.002	.967
3	There are clear in-service training policies and guidelines for TVET-teachers at college level	2.45	1.128	2.64	.994	2.48	1.107	.777	.379
4	There is clearly designated in-service management body at national level	2.90	1.029	3.15	.755	2.94	.993	1.843	.176
5	There is clearly designated in-service management body at regional level	2.42	1.029	2.45	1.148	2.43	1.046	.027	.870
6	There is clearly designated in-service management body at college level	2.20	1.021	2.30	1.159	2.21	1.042	.288	.592

F= calculated *f*-value

p= *p* value at 0.05 level

Note: Respondents rated each statement on a scale of 1 to 5, where 1=completely disagree, 2=disagree, 3=fairly agree, 4=agree, and 5=completely agree.

As the reaction for item 1 in Table 6 indicated, teacher respondents were uncertain ($M=2.85$, $SD=1.040$) whether clearly stated policies and guidelines that refer to the in-service training of TVET-teachers exists or not, while leader respondents agree ($M=3.61$, $SD=.864$) that policies and guide lines exist and were plainly stated. There is statically significant difference ($F 15.403$, $df=1$, $p=000$) at *p* value 0.05 between the mean scores of teacher and leader respondents on this issue. This finding indicates that policies and guidelines stated at national level with regard to the in-service training of TVET-teachers were not clear and known by the concerned teachers, even though leaders in TVETs think that policies and guidelines that refer to the in-service training of TVET-teachers exist and were clearly stated.

On the other hand, as the analysis of variances of responses for items 2 and 3 in Table 6 revealed, there is no statistically significant difference (at *p* value 0.05) between the mean scores of the two groups of respondents regarding the in-service policies and guidelines of TVET-teachers at regional and college

levels. This indicates that teachers and leaders in TVETs had agreement concerning the inadequacy or absence of in-service policies and guidelines for TVET-teachers at regional and college levels. Both teacher and leader respondents were uncertain about the existence of policies and guidelines at regional levels ($M=3.02$, $SD=.975$), and both groups of respondents confirmed that policies and guide lines to facilitate the in-service training of TVET-teachers doesn't exist at college levels ($M=2.48$, $SD=1.107$).

From these findings, it will be fair to conclude that policies and guidelines that refer to the in-service training of TVET-teachers, even if they exist, were not clearly stated at national, regional and college levels. Teachers lack the necessary information, so do not know what is expected of them, their rights, and responsibilities. The study showed that in-service training policies and guidelines that refer to TVET-teachers were not clear, and connections between national priorities and TVET-institute or individual needs did not exist.

These findings are highly in consistent with document findings. As the result obtained from the analyses of documents (MoE 1994; 2002; 2004; MoCB 2004) indicated, though the MoE has recently started a new program on teacher education called "Teacher Education System Overhaul (TESO)", the study had never addressed either the pre-service or the in-service education and training programs of TVET teachers. Similarly, the "Continues Professional Development Guideline", another document of the Ministry of Education of Ethiopia, also had never mentioned the strategy of in-service training programs for TVET teachers.

Nevertheless, a systematic approach to training and development should follow a logical sequence of activities, commencing with the establishment of a policy and the resources to sustain it, followed by an assessment of training needs, and ending with some form of evaluation and feedback (McBride 1996).

The 3rd, 4th and 5th items in Table 6 refer to the existence of managerial bodies which were in charge of coordinating in-service training programs of TVET-teachers at national, regional, and college levels respectively.

The non-significant ANOVA value confirmed that both teachers and leaders have almost the same opinion regarding the existence of designated in-service training coordinator body at all levels.

Analysis of responses to each of the items in Table 6 indicates that teacher and leader respondents were uncertain ($M=2.94$, $SD=.993$) about the existence of designated executive unit which is in charge of coordinating in-service training programs of TVET-teachers at national level. Moreover, both groups of respondents disagreed the presence of clearly designated in-service training coordinator body at regional and college levels with mean values 2.43 and 2.21 respectively.

Based on these findings, it can be concluded that there is no clearly assigned in-service training coordinator division, particularly at regional and college levels, for structuring and coordinating in-service training operations. However, it was recommended that a training unit consisting of a training manager must structure the training operation for maximum productivity and ensure that the training program satisfy the policy requirements of the organization (Peter 1974; Beer 1984).

Needs Assessment

An attempt was made to assess the practices involved and techniques used in the process of identifying and assessment of training needs. Accordingly, technical and vocational teaches in TVET colleges and leaders in TVETs were asked to indicate their degree of agreement on how much different techniques were used in the process of the assessment of training and development needs in TVETs.

Table 7: Means, Standard Deviations and t-tests on Techniques Used in Needs Assessment.

Item No	Techniques of Training Needs Assessment	Respondent Groups	N	Mean	Std. Deviation	t	p
1	Training needs were assessed through organizational analysis	Teachers	173	4.41	.770	.563	.454
		Leaders	33	4.52	.508		
		Total	206	4.43	.734		
2	Training needs were assessed through task analysis	Teachers	173	2.27	.762	.053	.818
		Leaders	33	2.30	1.212		
		Total	206	2.27	.846		
3	Training needs were assessed through person analysis	Teachers	173	2.19	.788	3.734	.055
		Leaders	33	2.48	.870		
		Total	206	2.24	.807		

t = calculated *t* - value

p = *p* value at 0.05 level

Note: Respondents rated each statement on a scale of 1 to 5, where 1=completely disagree, 2=disagree, 3=fairly agree, 4=agree, and 5=completely agree.

Table 7 depicts responses related to techniques used in the processes of identifying and assessing training needs in TVETs. The findings of the analysis of responses revealed no statistically significant difference between the mean scores of teacher and leader respondents regarding the techniques of training needs assessment. Accordingly, both groups of respondents had nearly similar perception concerning organizational, task, and person analysis. On the other hand, a closer examination of the mean values of responses indicate that training needs were assessed relatively better through organizational analysis (M=4.43, SD=.734) than task analysis (M=2.27, SD=.846) and person analysis (M=2.24, SD=.807).

The study groups of TVET-teacher and leader respondents were further asked to priority rank the three most important factors, from a given list of eight factors that influenced their decision to get involved in in-service training programs. In order to compare each of the items with the other, as shown in Table 6, responses were tabulated in inverse weightings, i.e., 1st choice 3 points, 2nd choice 2 points, and 3rd choice 1 point, and described in terms of total weighted scores, the most popular having the largest total.

TABLE 8: *Factors that Influence Teachers' Participation*

Item No	Factors that influence TVET-teachers participation in in-service training	Frequency			Weighted scores	Rank
		1 st	2 nd	3 rd		
1	Needs of my college	17	2	2	57	5
2	Chance for better payment	9	1	1	30	6
3	Deans suggestion	5			15	8
4	Owen need to develop	34	5	1	113	3
5	Need for better qualification	41			123	2
6	Chance of changing job	7			21	7
7	To differentiate work	19	3		63	4
8	Needs for training at national level	61	18		219	1
9	No response				5	
10	Others				1	

The analysis of participant TVET-teachers' and leaders' responses (Table 8) indicated that national needs for training is the first factor that influenced their decision to get involved in in-service training programs. The second and third most frequently indicated factors referred to teachers' personal level, namely the need to get better qualified and their personal need for development, respectively. The chance to differentiate work (4th) and college's training needs (5th) were appeared to be the least influential factors for TVET-teachers to get involved in in-service training programs.

These findings pointed out that in-service training programs for TVET-teachers were mainly organized and offered at national level in order to address identified training needs at organizational level, and possibly, not to colleges or teachers level.

Planning, Implementation and Evaluation

It has been discussed in chapter two of this study that management of in-service training deals with the planning, structuring, and coordination functions. It was also mentioned that planning should consider factors such as objective of the training, who the trainees are, who the trainers are, what the contents should be, training places, how the training should be delivered, and

should determine success indicators and evaluation mechanisms. With this understanding, respondents were asked to indicate their degree of agreement with statements that refer to the different aspects of the planning process.

Teachers and leaders in TVETs were requested to indicate how much in-service training objectives were clearly set and well defined. As the response for item one in Table 9 indicated, TVET-teacher respondents were not sure (M=2.83, SD=.611) whether there were clearly defined objectives for in-service training programs. However, leader respondents agree (M=3.7, SD=.669) that objectives for in-service training of TVET-teachers were clearly defined and well stated. As the analysis of variance showed, there is a statistically significant difference ($t=-7.709$, $df= 1$, $p=000$) between the two mean scores of the two groups of respondents at p value 0.05.

TABLE 9: Summarized ANOVA Table on the Different Aspects of Planning Process

Item No	Item	Respondents group				Total (N=206)		t-test	
		Teachers (N=173)		Leaders (N=33)		M	SD	t	P
		M	SD	M	SD				
1	In-service training programs of TVET-teachers have clearly defined objectives.	2.83	.611	3.70	.467	2.97	.669	-7.709	.000*
2	There is clear in-service training schedule for TVET-teachers at all levels.	3.03	1.243	2.97	1.104	3.02	1.220	.280	.780
3	TVET-teachers are obliged to participate in in-service training.	3.32	.888	3.03	.770	3.27	.875	3.027	.083
4	TVET-teachers have chances to participate in the planning of their in-service training.	2.27	.869	2.39	.998	2.29	.889	-.757	.450
5	Contents of in-service training consider trainee's qualification.	2.33	1.068	2.42	.708	2.34	1.018	-1.055	.293
6	Contents of in-service training consider trainee's educational background.	2.16	1.155	2.09	1.071	2.15	1.140	.327	.744
7	Contents of in-service training consider individual differences.	1.87	1.060	1.94	1.059	1.88	1.057	-.331	.741
8	Time frames for in-service trainings were convenient.	2.53	1.457	3.39	.704	2.67	1.400	-3.343	.001*
9	Trainees have chances to comment on their training through completing questionnaires.	2.09	.862	2.21	1.083	2.11	.899	-.734	.464
10	Trainees have chances to comment on their training through seminars.	1.72	.930	1.94	.966	1.76	.937	-1.220	.224

*-Differences between teacher and leader respondents obtained at $p<.05$

t = calculated t -value

Note: Respondents rated each statement on a scale of 1 to 5, where 1=completely disagree, 2=disagree, 3=fairly agree, 4=agree, and 5=completely agree.

These findings pointed out that either training objectives for in-service training of TVET-teachers were not stated at all, or even if they were stated, they were not clear for the teacher-trainees. Whichever was the case, it is wise to conclude that trainees were not aware about what was expected of them and from the program, upon the accomplishment of the training.

With regard to schedules of in-service training programs, the non-significant t-value revealed that both groups of respondents were not sure ($M=3.02$, $SD=1.220$) whether there existed one. Therefore, on the basis of this finding, it is possible to conclude that TVET-teachers did not know when and where in-service training opportunities were accessible.

An attempt was also made to find out the obligation and the right to participate in in-service training programs of TVEt-teachers. The analysis of responses of the participants (item 3 of Table 9) indicated that respondents only fairly agree ($M=3.27$, $Sd=.875$) with the obligatory nature of in-service training programs.

From this finding, it can be concluded that there was no formal obligation to attend in-service training programs, but teachers do have a moral obligation to acquaint them selves with contemporary developments both in their subject areas and in the teaching profession. In other words, the obligation and the right to participate in in-service training programs for TVEt-teachers, as this and other findings revealed, were not linked to any specific incentives and promotions in careers.

Teachers' Involvement

Teacher and leader respondents were asked to indicate whether TVET-teachers had been offered opportunities to take part in the designing and planning of their in-service training program. Accordingly, both groups of respondents, without any statistically significant difference, disagreed ($M=2.29$, $SD=.889$)

with the statement that TVET-teachers had chances to participate in the planning of their in-service training.

It was discussed in chapter two of this study that when in-service training is planned and focused upon teachers' needs, it is likely to be more effective, particularly when teachers are involved in the identification of what they need to learn and train and, when possible, in the development of the process to be used.

However, as the analysis of responses indicated, teachers had no or little chance to participate in the designing and planning of their in-service training program.

Relevance of Training Contents

It is well known that participants of a certain in-service training could have a variety of backgrounds, such as differences in qualification, subject of specialization and initial training, and individual differences. Accordingly, it is expected for the training contents to accommodate these differences as much as possible. In this belief, an attempt was made to examine the degree contents of in-service training of TVET-teachers reflected these differences.

Generally, the analysis of responses, as indicated in items 6,7 and 8 of Table 9 consecutively, confirmed that contents of in-service training of TVET-teachers were failed to consider the aforementioned differences in trainees.

Nevertheless, the content of a training system, as it was discussed in chapter two of this study, should be very strongly oriented on the needs of the teacher-trainees.

Time Frames

One of the big issues that most often TVET-teachers talk about concerns the question whether in-service training, apart from upgrading ones, should take place during school time or in vacation.

While those who argue that in-service training should be conducted during school time reason out that in-service training is part of the job, others say 'no' to this because the time is taken from the student-trainees who have a right for regular classes.

When some argue that the convenient time to conduct in-service training is during teachers' vacation because teachers have more vacations than other workers, others, in contrary, say 'no' to this because this would not help to attract participants.

Having this in mind, an attempt was made to examine how much in-service training programs of TVET-teachers were considered the issue in the designing and implementation processes of in-service trainings offered so far, by forwarding the point to TVET-teacher and leader respondents.

Teacher respondents were disagreed ($M=2.38$, $SD=1.717$) with the statement that time frames for in-service trainings were convenient. In contrary, leader respondents agreed ($M=3.39$, $SD=.704$) that time frames for in-service trainings were convenient. As indicated in the ANOVA summary Table 10, there is statistically significant difference between the mean scores of teacher and leader respondents at p value 0.05 level.

These findings demonstrated that the arguments mentioned earlier still holds true. When the leader respondents, who many of the times were the main organizers of the trainings, thinks that time frames allotted for in-service trainings were convenient, while teacher respondents, the primary beneficiaries

of the trainings, considered time frames allotted for in-service training programs were inconvenient.

Moreover, further investigations were made on the basis of qualification backgrounds to reveal if differences in perception among respondents in these sub groups existed.

As the Summarized Analyses of Variance Table in Appendices C indicated and a series of independent t-tests (as qualification independent variable) confirmed, there existed a statistically significant difference, at alpha level 0.05 level, specially between the mean scores of "Others" sub-group of respondents and the remaining respondents.

It is to be recalled that the sub-group "others" refer to teacher respondents who have diploma and being attending summer in-service training to upgrade their qualification. Therefore, the obtained difference among these sub-groups of the study revealed that time frames for in-service training were only convenient for those TVET-teachers who were attending their higher education and training during summer.

To windup, time frames for in-service training programs were not adequately convenient to many of in-service trainee-teachers in TVETs.

Evaluation

As many of the literatures indicated and as it was discussed in chapter two of this study, a training program should be evaluated to detect the defects and identify the strengths and weaknesses so as to make timely corrections and get lessons for the future. As it was indicated, two of the instruments used to evaluate in-service training programs are through questionnaires and through seminars. Based on this understanding, an attempt was made to investigate the experiences exercised in the process of evaluating in-service training programs of TVET-teachers.

Instead of directly asking whether evaluations were carried out, respondents were examined to indicate their degree of participation in the process. As a result, the statistical analysis (M=2.11, SD=.899) revealed that trainees had little or no chances to comment on their training through completing questionnaires. Likewise, the statistical data obtained (M=1.76, SD=.937) plainly pointed out that trainees had no opportunities in which they can comment on their training through discussions or seminars.

These findings revealed the realities that neither seminars nor questionnaires completed by participants were not adequately used to evaluate and examine the effectiveness of in-service training programs and to develop them further.

Therefore, based on these findings, it can be concluded that managers and higher officials in TVETs used available facilities and may continue offering in-service training for TVET-teachers in the same way year in and year out, without adequate feedback and necessary corrections made.

Table 10 *Training Budget*

Item No	Item	Respondents group				Total (N=206)		t	P
		Teachers (N=173)		Leaders (N=33)		M	SD		
		M	SD	M	SD				
1	There is adequate budget allocated for in-service training at national level	2.98	.828	3.12	.650	3.00	.802	.896	.345
2	There is adequate budget allocated for in-service training at regional level	2.53	1.118	2.61	.788	2.54	1.071	.154	.695
3	There is adequate budget allocated for in-service training at college level	1.95	1.022	2.06	.609	1.97	.967	.337	.562

t= calculated t value

p= p value at 0.05 level

Note: Respondents rated each statement on a scale of 1 to 5, where 1=completely disagree, 2=disagree, 3=fairly agree, 4=agree, and 5=completely agree.

With regard to budgets for in-service training, as the analyses of responses in Table 10 depict, there is no statistically significant difference between the mean scores of teacher and leader respondents. This indicates that both groups of respondents had almost similar view concerning budgets for in-service training at national, regional and college levels.

The analysis of responses pertaining to budgets indicated that, collectively, both teacher and leader respondents were not sure ($M=2.5$, $SD=.947$) whether budgets were allocated for running in-service training programs of TVET-teachers at national, regional, and college levels. However, respondents ascertained ($M=1.97$, $SD=.967$) that adequate budgets were not allocated for in-service training at college levels.

These findings indicated that adequate budgets were not allocated to carry out in-service training activities for TVET-teachers at national, regional, or college levels. But, it is to be remembered from the discussions made in chapter two of this study that adequate funds are at the heart of training success.

Table 11: *Attendance Rate*

		Respondents group				Total	
		Teachers		Leaders		Count	%
		Count	%	Count	%		
Attendance rate	Increasing	34	19.65	7	21.21	41	19.90
	The same	55	31.79	12	36.36	67	32.52
	Decreasing	84	48.55	14	42.42	98	47.57
Total		173	100.00	33	100.00	206	100.00

Respondents were asked to indicate the trend of the attendance rate of TVET-teachers in in-service training programs. As indicated in Table 11, more than 47 per cent ($N=98$) of the total respondents indicated that teachers' participation was decreasing from time to time. Only about 20 per cent of the respondents indicated that the attendance rate of teachers in in-service training was increasing.

This finding was further supported by a pattern of relevant comments in the open-ended question of the questionnaire. Respondents who indicated "decreasing" for the above question were also requested to list some factors that they think were the main reasons for the decreasing trend of teachers' participation in their in-service training.

Many of the respondents indicated that lack of proper identification and understanding of teacher's training needs such as abilities, qualifications, educational backgrounds, practical skills, interests and relevance of contents of training as some of the reasons for low attendance rate of teacher trainees. Moreover, respondents mentioned inconvenience of training places and low level of practical competences of trainers as some of the reasons for the decreasing trend of teachers' participation in in-service training.

Respondents also indicated that many of in-service training programs lack inspiration and incentive elements such as bonus, rise in salary, and promotion and career advancement. With regards to promotion and career advancement in particular, a respondent strongly pointed for instance that " I have more than 10 certificates of attendance and nobody takes them into consideration, neither the Ministry nor the college. If each one was worth 1 credit, then they would be obliged to consider them", while another one said " We observe that some teachers are never trained while others are trained on systematic basis. Which should be the motive of the second group if they receive the same evaluation as those that never receive training?".

Furthermore, almost all respondents who ascertained that the attendance rate of teachers in in-service training was "decreasing" also indicated that participations should be on voluntary basis since motivation will surely not be created by pressure.

In a related issue, respondents were requested to point three main types of incentive opportunities that were most available in relation to participation and/or accomplishment of in-service training programs from a list of six possible incentive opportunities.

Table 12: *Types of Available Incentive.*

		Respondents group				Total	
		Teachers		Leaders		Count	%
		Count	%	Count	%		
Types of incentives	Rise in salary	3	1.73	-	-	3	1.46
	Promotion	7	4.05	-	-	7	3.40
	Bonus	4	2.31	-	-	4	1.94
	Per dime	67	38.73	9	27.27	76	36.89
	Transport pay	81	46.82	15	45.45	96	46.60
	Release time	10	5.78	5	15.15	15	7.28
	Others	1	.58	4	12.12	5	2.43
Total		173	100.00	33	100.00	206	100.00

As indicated in Table 12, the most frequent ($f= 96$) response dealt with the incentive opportunity that refers to transport facilities. The second most frequently ($f=76$) identified available incentive opportunity was per diem. Promotion in career, though pointed only by few of the respondents ($f=7$), was pointed as the third available incentive opportunity in relation with participating or accomplishing in-service training programs. As pointed only by very few of the respondents, bonus ($f=4$) and rise in salary ($f= 3$) appeared to be the least available incentive opportunities.

From these findings, it is possible to conclude that in-service training programs of TVET-teachers lack variety of incentive opportunities. This, in effect, could discourage TVET-teachers' participation in in-service training programs.

Trainees' Degree of Satisfaction

To examine the extent in-service training programs were satisfactory, teachers and leaders in TVETs were asked to rate the degree of their satisfaction with the different aspects of in-service training programs that they were attended to. The Summarized ANOVA Table 12 shows the means, standard deviations, and t-tests for the ratings.

Table 13: Summarized ANOVA Table on Trainees' Degree of Satisfaction

Item No	Training Aspects	Respondent Groups: Teachers; N=173 Leaders; N=33 Total N=206	Mean	Std. Deviation	t-test for Equality of Means (df=204)	
					t	p
1.	Relevance of training contents with training needs	Teachers	2.34	1.416	-6.495	.000*
		Leaders	4.00	.866		
		Total	2.61	1.474		
2.	Adequacy of number of training opportunities	Teachers	4.10	.932	.578	.564
		Leaders	4.00	.661		
		Total	4.08	.893		
3.	Adequacy of practical exercises in workshops	Teachers	2.31	.825	-3.466	.001*
		Leaders	2.85	.755		
		Total	2.40	.836		
4.	Adequacy of training facilities and materials	Teachers	2.33	.870	-3.572	.000*
		Leaders	2.88	.331		
		Total	2.42	.833		
5.	Trainers ability in relating theories with practices	Teachers	1.47	.873	15.191	.000*
		Leaders	4.03	.951		
		Total	1.88	1.290		
6.	Qualification of trainers	Teachers	3.08	1.133	.392	.695
		Leaders	3.00	.791		
		Total	3.07	1.084		
7.	Opportunities for Industrial visits	Teachers	2.12	.761	.589	.557
		Leaders	2.03	.770		
		Total	2.10	.761		
8.	Adequacy of transport facilities or pay	Teachers	4.27	.777	-1.088	.278
		Leaders	4.42	.708		
		Total	4.29	.767		
9.	Adequacy of allowances	Teachers	3.12	.848	-.615	.539
		Leaders	3.21	.696		
		Total	3.13	.825		
10.	Duration of training	Teachers	3.60	1.145	-.024	.981
		Leaders	3.61	.496		
		Total	3.60	1.067		
11.	Conveniences of training institutes	Teachers	2.23	1.225	-7.220	.000*
		Leaders	3.82	.727		
		Total	2.48	1.298		

t=calculated *t* value

p= *p* value at 0.05 level

*=*p* value <0.05

Note: Note: Respondents rated each statement on a scale of 1 to 5, where 1= completely unsatisfactory, 2= list satisfactory, 3= satisfactory, 4= highly satisfactory, and 5= completely satisfactory

The first item in Table 13 refers to the relevance of training contents with the training needs of TVET-teachers. In this regard, teacher respondents indicated that the relevance of training contents with the identified training needs were least satisfactory (M=2.34, SD=1.416), whereas leader respondents ascertained that the relevance of training contents with the training needs were highly satisfactory (M=4.00, SD=.866). There is statistically significant difference (t=-

6.495, $df=204$, $P=0.000$) between the mean scores of teacher and leader respondents at p value 0.05. This indicates that there was a gap between the teachers (the primary beneficiaries of the program) and the leaders (the provider of the training opportunities) in selecting relevant contents of training that best serve the training needs of the teachers. It may be concluded that higher officials were the one who mainly determine the content of trainings.

With regard to the number of training opportunities offered, both teacher and leader respondents rated highly satisfactory ($M=4.11$, $SD= .890$), and this indicates that the number of training opportunities for TVET-teachers were adequate.

In the attempt made to examine the degree of satisfaction of TVET-teachers in their practical exercise in workshops, teachers indicate that they were least satisfied ($M=2.36$, $SD=.862$), whereas leaders rated satisfactory ($M=2.85$). Further analysis of variance between the mean score value of teacher and leader respondents ($t=-3.466$, $DF=204$, $P=.001$) revealed a significant difference in the perception they have with regard to the adequacy level of practical exercises in workshops.

As the values of the mean scores indicated, teacher respondents were least satisfied ($M=2.33$, $SD=.870$) with the adequacy of training materials and facilities, while leader respondents confirmed that training materials and facilities were satisfactorily adequate ($M=2.88$, $SD=.331$). There is statistically significant difference at p value 0.05 ($t=-3.572$, $df=204$, $P=.000$,) between the mean scores of the two group of respondents. However, the cumulative mean score value of teacher and leader respondents ($M= 2.42$, $SD=.833$) revealed that the adequacy level of training materials and facilities was least satisfactory.

These findings indicated that either leaders in TVETs did not well know the available training materials and facilities in training institutes, or had wrong

perception on the adequacy level of training materials and facilities required for the intended purpose of the training.

With regard to trainer's ability in relating theories with practical applications, vary significant difference ($t=-15.191$, $df=204$, $p=.000$) was observed between the mean scores of TVET-teacher and leader respondents at p value 0.05. When teacher respondents confirmed that the trainer's ability in relating theories with practical applications was completely unsatisfactory ($M=1.47$, $SD=.873$), leader respondents agreed that trainers' ability in relating theories with practical applications was highly satisfactory ($M=4.03$, $SD=.951$).

The results of the analysis of responses and the observed statistically significant difference indicate that there is a difference in perception between teacher-trainees and leaders in TVETs regarding in-service-trainers' abilities in relating theoretical aspects of training contents with their practical applications.

From these findings, it could be concluded that either there were no set criteria used in the process of selection and placement of in-service trainers so trainers were assigned on the basis of the goodwill of authorized program coordinators, or leaders considered that level of qualification as the main suffice precondition in the process of selection and assignment of in-service trainers.

Generally, the data ($M=1.88$, $SD=1.290$) indicates that practical abilities of in-service trainers to link theoretical aspects of training programs with their practical applications were least satisfactory. It could be possible to consider that the question of relating theories with their practical applications is one of the major training needs of technical and vocational teachers and the core objective of many of the in-service training programs of TVET-teachers. However, these findings confirmed that trainers of TVET-teachers significantly lack practical competences that could satisfactorily address the training needs

of TVET-teachers, even though both of the respondent groups agreed that trainers' level of qualification was satisfactory ($M= 3.07$, $SD=1.084$).

With regard to the availability and adequacy of transport facilities and allowances, respondents ascertained that availability and adequacy of transport facilities were highly satisfactory ($M=4.29$, $SD=.767$), but the adequacy level of allowance was only moderately satisfactory ($M=3.13$, $SD=.825$).

Respondents were also asked to indicate the degree of their satisfaction with regard to the duration of training programs. Responses indicated that duration of in-service training programs were highly satisfactory ($M=3.60$, $SD=1.067$). However, further analysis of variances between the mean scores and a series of independent samples t-test performed on the basis of respondents' qualification sub-groups revealed a significant difference between the respondent group that belong to "Others" and the remaining sub-groups of respondents (Appendix C).

These findings possibly indicates that (1) training durations for short term training programs were highly satisfactory, but (2) training durations of training programs for respondent groups who have been attended some type of summer-in-service-degree program were inadequate.

An attempt was also made to examine the convenience of training institutes for the intended purpose of the training. TVET-teacher respondents considered the convenience of training institutes for the intended purpose of the training was least satisfactory ($M=2.23$, $SD= 1.225$), whereas leader respondents considered highly satisfactory ($M=3.82$, $SD=0.727$). Further analysis of independent t-test revealed a quite significant difference ($t= -7.220$, $df=204$, $P=.000$) between the mean scores of TVET-teacher and leader respondents. This result indicates that teacher-trainees and leaders in TVETs do not have the same perception concerning the conveniences of in-service training places for the intended

purpose of the training. From these findings, it can be deduced that higher officials in TVETs determine in-service training places without thoroughly examining its conveniences for the intended purposes of the training.

CHAPTER FOUR

SUMMARY, CONCLUSION, AND RECOMMENDATIONS.

4.1 Summary of Findings

The focus of this study was to assess current trends and issues related to the practices involved in the provision of in-service training programs of technical and vocational teachers in Ethiopia. It was also designed to provide a basis for making suggestions and recommendations for improving the effectiveness, efficiency, and quality of in-service training programs of TVET-teachers. The study particularly focused on addressing basic issues related to the practices used in the designing and implementation aspects of the programs.

A descriptive survey method was employed for the study. Two hundred and twenty-five technical and vocational teachers were randomly selected from 9 TVET-colleges found in Tigray, Amhara, Oromiya, and Addis Ababa administrative areas to be the sample of the study. Fifty incidentally available leaders in TVETs at federal, regional and college levels were also included to be the subject of the study.

Questionnaire and analysis of documents were used to collect information for the study. The instrument was pilot tested on a small group (N=10) of technical and vocational teachers, and revision were made both to the basic questions and to the instrument. Two hundred seventy-five questionnaires, 225 for teachers and 50 for leaders, were distributed. The return rate was 76.59 per cent for teacher respondents and 66 per cent for leader respondents.

The collected data were coded and analyzed using SPSS computer program. Descriptive statistics including frequencies, percentages, means, and standard deviations were used to analyze the data. Analysis of variance [One-way ANOVA] and independent sample t-test were also conducted for further analysis of the data.

Finally, the major findings obtained through data analyses of responses and documents are summarized as follows:

1. More than two-third of the existing TVET-teachers were above 41 years old, trained and qualified under the previous curriculum where much emphasis were given to theoretical aspects of contents than practical applications.
2. The Ethiopian MoE has stated that teachers in TVET-colleges need to have first degree. However, about 80% of TVET-teachers did not have the required level of qualification.
3. The great majority (88 per cent) of TVET-teachers had teaching experience of more than 5 years, but almost all of TVET-teachers had no work experience in industries or service provider organizations. This implies that they did not have first-hand information about what was required in the real world of work in relation to the course objectives of the subject they were teaching.
4. More than three-fourth of TVET-teacher respondents confirmed that they had training opportunities within the past six months organized mainly by Ministry of Education. This indicates that the necessity of periodic in-service training for TVET-teachers was recognized at federal level. However, the provision of in-service training remained within the realm of federal government initiatives. The share of regional education bureaus and TVET-colleges in the provision of in-service training opportunities for TVET-teachers was almost insignificant.
5. The main types of in-service trainings programs that had been most often offered to TVET-teachers in the past three years were limited to short term workshops, seminars, and conferences. These programs were mainly aimed at the development of technical and practical competences of technical and vocational teachers. On the other hand, summer in-service program was the only moderately adequate access

TVET-teachers had to higher educations to upgrade their qualifications. Alternative types of training opportunities such as evening classes, distance education, and systematically arranged classes along with teaching, collectively, were not well exercised by TVET-teachers, or were not adequately available at the reach of technical and vocational teachers in TVETs.

6. As confirmed by most of respondents, there was the practice of introducing newly assigned teachers to college community and environment as a starting point of in-college training activity in TVET-colleges. However, other forms of in-college professional development activities, such as, mentoring, visiting classes of model teachers, and consulting higher institutions were weak in TVET-colleges. Therefore, teamwork and the custom of experience sharing within and between TVET-teachers and TVET-colleges were yet not practiced to the satisfactory level.
7. The analyses of responses indicated that policies and guidelines that refer to in-service training of TVET-teachers were not clear and known by the majority of concerned teachers, though leaders in TVETs thought otherwise. This indicates that the available policies and guidelines did not clearly show the incentives and the sanction of conformity or non-conformity to in-service training.
8. There was no clearly designated in-service training coordinator unit, particularly at regional and college levels, for structuring and coordinating in-service training operations so as to ensure that the training programs satisfy the policy requirements of the organization and the training needs of the teachers.
9. In-service training programs of TVET-teachers were mainly prearranged and offered on the basis of organizational training needs, not on training needs identified through person or task analysis.

10. Although most of leaders in TVETs considered that objectives for in-service training programs were clearly stated, the majority of teacher-trainees did not agree.
11. As confirmed by the overwhelming majority of respondents, there were no definite schedules set for in-service training opportunities that had been offered in the past three years at federal, regional, or college levels.
12. Teacher-trainees had no chances to participate in the planning of their in-service training opportunities.
13. Both teacher and leader respondents agreed that in-service training contents were not designed in the way that they could accommodate differences in trainees' background such as level of qualification, initial training, and differences as individual and as a group.
14. The provider, mainly the Ministry of Education, some times assessed in-service teacher training programs on the basis of reports from course trainers. Seminars and questionnaires completed by participants were not used to evaluate and examine the effectiveness of in-service training programs.
15. There was no adequate budget allocated to carry out in-service training activities for TVET-teachers at national, regional, or college level.
16. The great majorities of participants of in-service training courses, in contrary to TVET-leaders, claimed that the contents were irrelevant, presentations were too academic, training materials and facilities were inadequate, training places were inconvenient, and trainers' ability in relating theories with practical applications were completely unsatisfactory. Moreover, trainees were not comfortable with time frames set for short-term in-service training programs offered during teachers' vacation time, though leaders assumed differently.

17. The research results also revealed that the great majority of participants of in-service training courses and leaders in TVETs guaranteed that number of training opportunities, trainers' level of qualification, transport facilities, and duration of in-service training programs were highly satisfactory.
18. More than 47 per cent of respondents indicated that teachers' participation in in-service training was decreasing from time to time.
19. The main types of incentive opportunities available during and/or upon accomplishment of in-service training programs were transport facilities and allowance. In-service training programs highly lacked inspiration and incentive elements such as bonus, rise in salary, promotion and career advancement. The obligation and the right to participate in in-service training programs were not clearly linked to any specific incentives and promotions in careers.

4.2 CONCLUSION

Based on the research findings, the following conclusions were drawn:

The great majorities of TVET-teachers in Ethiopia were above 41 years old, trained and qualified under the previous curriculum, and did not have the required level of qualification. Almost all of technical and vocational teachers had no work experience in industries or service provider organizations. However, more than three-fourth of them had in-service training opportunity in the past six months. The main types of in-service trainings programs that had been most often offered to TVET-teachers in the past three years were limited to short term workshops, seminars, and conferences. On the other hand, summer in-service program was the only moderately adequate access TVET-teachers had to higher educations to upgrade their qualifications.

The provision of in-service training for TVET-teachers in Ethiopia remained within the realm of federal government initiatives, mainly by the Ministry of Education. There were no specific requirements for professional development that teachers needs to meet in order to maintain their jobs and no agreed standards for in-service training programs, while participation in courses does not have a significant impact on career advancement or promotion processes. The training plan was centrally determined and supply driven, with no or limited input from either training institutes or teachers. Furthermore, it seems that managers and higher officials in TVETs used the available facilities and continued offering in-service training for TVET-teachers in the same way year in and year out, without conducting evaluations, adequate feedback and necessary corrections made. There was no clearly agreed framework for either training institutes or individual teachers to determine their training objectives and priorities.

The great majorities of participants of in-service training courses, in contrary to leaders in TVETs, claimed that the contents were irrelevant, presentations were

too academic, training materials and facilities were inadequate, training places were inconvenient, and trainers' ability in relating theories with practical applications were completely unsatisfactory. Moreover, trainees were not comfortable with time frames set for short-term in-service training programs offered during teachers' vacation time, though leaders assumed differently.

In general, clear and plain connections between national priorities and TVET-institute or individual needs did not exist. Despite the efforts made by the Government to improve the quality of technical and vocational teachers through in-service training, the provision of in-service training has lacked, in many ways, to meet requirements expected by TVET-teachers in Ethiopia.

4.3 RECOMMENDATIONS

Based on the literature reviewed, experiences learned, and considering the main findings of this research, the following recommendations are forwarded:

4.1 The qualification and age profile of the existing TVET-teachers suggest the need for training large numbers of new TVET-teachers in pre-service teacher education and at the same time retraining of the existing teachers through in-service education. Therefore, it is recommended that:

4.1.1 Alternative in-service training opportunities such as distance education, extension classes, and special classes arranged along with teaching should be encouraged and facilitated for teachers in TVETs.

4.1.2 Programs prepared to train teachers need to be adjusted in the same way as the programs of the TVET-colleges. Therefore, the existing contents-and subject oriented in-service training approach should be replaced by a modern modular structure.

4.2 It was found that technical and vocational teachers in TVETs do not have industrial experiences at all. Furthermore, document analysis and data obtained showed that neither the pre-service nor the in-service education and training programs of technical and vocational teachers did much in this regard. As the result, teachers in TVETs lacked practical skills and firsthand information and knowledge about what is required in the real world of work in relation to the course objectives of the subject they are teaching. However, the need to link in-service training to the work place and community is a crucial subject especially for teachers in TVETs, and industrial placement is one of the most important elements of any technical training, especially for TVET-Teachers training. In this regard, therefore, the following recommendations are forwarded:

4.2.1 Appropriate measures should be taken by concerned bodies to create awareness about the relationships between the quality of TVET- system

and the increasing demand of required competencies in the real world of work.

4.2.2 In order to make the training more practical, in-service training organizers need to prearrange preconditions and design training programs that have direct link with industries and service providers.

4.2.3 TVET-colleges need to strengthen their relation with industries and service provider organizations. They have to invite, if possible hire some experts on contractual basis, from industries and service provider organizations in order to share practical experiences on specifically identified training needs of teachers.

4.3 Literature indicated that a systematic approach to training and development should follow a logical sequence of activities, commencing with the establishment of policies and the resources to sustain it. However, in contrary to this, the findings of this study showed that in-service training policies and guidelines that refer to TVET-teachers were not clear, budgets were inadequate, and connections between national priorities and TVET-institute or individual needs did not exist. In this regard, thus, the following recommendation are forwarded:

4.3.1 The Ministry of Education has to put into effect national in-service training policies and strategies for TVET-teachers. It is also recommended that national policies and strategies of TVET-teachers' in-service training need to confer more responsibility for TVET-colleges;

4.3.2 In-service training-offers for TVET-teachers should be closely linked with the particular demand of local training needs. Thus, it is highly recommended that TVET-colleges need to develop in-service training policies that are inline with regional and national training policies and strategies.

4.3.3 Adequate funds are at the heart of program success. However, in a status of serious national budgetary deficits, it is difficult to address

all training needs at a time. Therefore, it is recommended that TVET-institutes have to be fully autonomous to generate and use incomes for such a purposes by effectively utilizing all the resources available.

- 4.4 It is found that in-service training programs have been in short of designated responsible body for structuring and coordination of training operations at all organizational levels. Therefore, it is recommended that clearly designated training unit should be established for structuring and coordination of in-service training operations at all levels. Moreover, duties and responsibilities of all the concerned bodies should be clearly assigned.
- 4.5 Participants of courses ascertained that participation in courses does not have a significant impact on career advancement or promotion processes, and lacked incentives. Thus, it is recommended that policies have to show the incentives and the sanctions of conformity or non-conformity to in-service training.
- 4.6 In-service training programs should be properly monitored, evaluated, and recorded in order to make timely corrections, learn lessons from the strengths and weakness of experiences and to use for future references. However, findings of this study indicated that practices in this aspect were poor. Therefore, in-service training programs need to be evaluated in terms of *inputs, processes, and* anticipated *outcomes*, and should be recorded and kept for future reference.
- 4.7 The effect of in-service training must be reflected in the actual teaching-learning situation; how it affects student outcomes in the classroom. When this happens, teachers are found to develop more interest for in-service training. However, respondents have indicated that they were list satisfied with the contents of their training. Therefore, it is recommended that the content of in-service training should focus on what students are to learn and how to address the different problems students may have in learning the material.

- 4.8 Generally, the study indicated that participants of in-service training were not satisfied with many of the components of their in-service training programs. Thus, it is highly recommended that teachers must be encouraged to involve in the identification of what they need to learn and the development of the training process to be used.
- 4.9 This study had several limitations. Specifically, it was restricted to TVET-colleges and it did not deal with all potential definitions or descriptions of in-service training. Despite all its limitations, the study indicated that participants of in-service training were not satisfied with many of the components of their training. The results of the findings revealed, in general, the provision of in-service training has lacked, in many ways, to meet the training needs of TVET-teachers in Ethiopia.

However, when in-service training is planned and focused upon teachers' needs, it is likely to be more effective, particularly when teachers are involved in the identification of what they need to learn and train and, when possible, in the development of the process to be used. Systematic research should, therefore, be conducted to explore teachers' training needs.

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Appendix A: Sample Questionnaire

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF EDUCATIONAL PLANNING AND MANAGEMENT
QUESTIONNAIRE FOR TEACHERS AND LEADERS IN TVETS

I would like to express my sincere appreciation in advance for your vital cooperation to respond to the following questionnaire.

The questionnaire is designed to collect information, attitudes, and opinions about the strong and weak trends of in-service training programs, which were designed and implemented at national or/and regional levels for TVET-teachers within the past three years.

It is hoped that the findings of the study will be of great help to in-service program designers, researchers, and above all, to TVET-teachers who are always in need of well-organized in-service training in their subject area.

PART 1: Background Information

1. Name of your Organization or Office or Bureau (Only Leaders):

2. Region or City Administration: _____

3. Sex: (Please mark '✓') Male () Female ()

4. Age: (Please mark '✓')

a) Twenty or below ()

b) 21-30 ()

c) 31-40 ()

d) 41-50 ()

e) 51 or above ()

5. Qualification: (Please mark '✓')

- a) Diploma ()
 - b) Bachelor degree ()
 - c) Masters degree ()
 - e) Other (Please specify, if any) _____
6. Your Position/Work Title: _____
7. Years of teaching experience: (Please mark '✓')
- a) One year or less () b) 2-5 years () c) 6-10 years ()
 - d) 11-20years () e) 21 years or above ()
8. Work experience in the present or related position (Only for Leaders): (Please mark '✓')
- a) One year or less ()
 - b) 2-5 years ()
 - c) 6-10 years ()
 - d) 11- 20 years ()
9. Do you have work experience in industry (or in service-provider organization) other than teaching? (Only for teachers). (Please mark '✓')
- a) Yes () b) No ()
10. If your answer to the above question is “yes”, how many years of experience do you have? (Please mark '✓')
- a) Six months or below ()
 - b) One year ()
 - c) Two years ()
 - d) Three years or above ()

PART II.

Section A. General Questions Related to the In-Service Training Programs of TVET-Teachers

11. How long has it been since you participated in a workshop, or seminar, or in any type of in-service training for the last time? (Please mark '✓')
- a) Three months or below ()

- b) Six months ()
- b) One year ()
- c) Two years and above ()

12. Please, write the *types of in-service training, the main provider (s) of the training programs, and the length of the training time* of the in-service training programs you were participated in the past three years in Table 1 below.

TABLE 1: In-service training typp, provider, and length of training

No	Type of training	Provider(s)	Length of the Training Time
1			
2			
3			
4			
5			

13. What is the attendance rate of TVET-teaches in their in-service trainings?
(Please mark '✓')

- a) Increasing from year-to-year ()
- b) Almost the same ()
- C) Decreasing from year-to-year ()

14. If your answer to the above question is “decreasing”, what do you think are the main reasons?

15. Is there any incentive provided for TVET-teachers during on-going, or upon completion of their in-service training program(s)?

- a. Yes ()
- b. No ()

16. If your answer to the above question is yes, what are the common types of incentive offers? (You can circle more than one)

- a) College credit b) Raise in salary c) Allowance d) transport facility
 e) Promotion in career f) Bonus
 g) other (Please specify, if any) _____

17. Of the following eight factors, what three factors most influence your decision to get involved in in-service training programs? (Please rank 1st, 2nd, and 3rd).

No	Factors	Rank
1	Needs of my college	
2	Chance for better payment	
3	Deans suggestion	
4	Owen need to develop	
5	Need for better qualification	
6	Chance of changing job	
7	To differentiate work	
8	Needs for training at national level	
9	Others	

Section B.

Instruction: Table 2 (below) contains statements related to in-service training programs. Please mark “✓” under the number in the matrix to indicate the degree of your agreement with each statements.

(5= Strongly agree; 4= Agree; 3= Fairly agree; 2= Disagree; and 1= Strongly disagree).

Table 2: Statements related to in-service training programs.

No	Statements	Degree of Agreement				
		5	4	3	2	1
18	There are clear in-service training policies and guidelines for TVET-teachers at national level.					
19	There are clear in-service training policies and guidelines for TVET-teachers at regional level.					
20	There are clear in-service training policies and guidelines for TVET-teachers at college level.					
21	There is a clearly designated management body for in-service training programs at national level.					
22	There is a clearly designated management body for in-service training programs at regional level.					
23	There is a clearly designated management body for in-service training programs at college level.					
24	There is adequate budget allocated for in-service training at national level.					
25	There is adequate budget allocated for in-service training at regional level.					
26	There is adequate budget allocated for in-service training at college level.					
27	TVET-teachers have adequate opportunity to upgrade their qualification through evening classes.					
28	TVET-teachers have adequate opportunity to upgrade their qualification through summer in-service programs.					
29	TVET-teachers have adequate opportunity to upgrade their qualification through distance education programs.					
30	TVET-teachers have adequate opportunity to upgrade their qualification through arranged classes along with teaching					

Table 2; Continued:

No	Statements	Degree of Agreement				
		5	4	3	2	1
31	In TVET- colleges, newly assigned teachers are introduced to college community and college conditions.					
32	TVET-teachers have adequate opportunity to upgrade their qualification through evening classes.					
33	TVET-teachers have adequate opportunity to upgrade their qualification through summer in-service programs.					
34	TVET-teachers have adequate opportunity to upgrade their qualification through distance education programs.					
35	TVET-teachers have adequate opportunity to upgrade their qualification through arranged classes along with teaching.					
36	Training needs were assessed through organizational analysis.					
37	Training needs were assessed through task analysis.					
38	Training needs were assessed through person analysis.					
39	In-service training programs of TVET-teachers have clearly defined objectives.					
40	There is clear in-service training schedule for TVET-teachers at all levels.					
41	TVET-teachers are obliged to participate in in-service training.					
42	TVET-teachers have chances to participate in the planning of their in-service training.					
43	Contents of in-service training consider trainee's qualification.					
44	Contents of in-service training consider trainee's educational background.					
45	Contents of in-service training consider individual differences.					
46	Time frames for in-service trainings were convenient.					
47	Trainees have chances to comment on their training through completing questionnaires.					
48	Trainees have chances to comment on their training through seminars.					
49	In-service training programs of TVET-teachers have clearly defined objectives.					

Section C: Questions related different aspects of in-service training.

Instruction: In Table 3 below, different aspects of in-service training are listed. Please, Mark “✓” under the number in the matrix that represents the degree of your satisfaction with each of the statements listed.

5= Completely satisfactory 4= Highly satisfactory 3= Satisfactory
 2= List satisfactory 1= Completely unsatisfactory

Table 3: Different Aspects of Training.

No	Aspects of the Training	Degree of Satisfaction				
		5	4	3	2	1
50	Relevance of training contents to teacher’s training needs.					
51	Number of in-service training opportunities available.					
52	Practical exercise in workshop.					
53	Adequacy of training facilities and materials.					
54	Ability of trainers in relating theories with practical applications.					
55	Level of qualification of the trainers.					
56	Opportunities to visit industries or service provider organizations.					
57	Transport facility or expenses provided.					
58	Allowance provided.					
59	Duration of training.					
60	Convenience of training institutes for the purpose of the training.					
61	Other (Please specify, if any).					

62 In your opinion, what are the main constraints in providing in-service training for TVET-teachers?

63 What do you suggest to improve in-service training program for TVET-teachers?

Thank You.

Appendix C

Summarized ANOVA and Independent t-test for Equality of Means (Sample)

One-way: Convenience of Training Time

Descriptives

Respondents	N	Mean	Std. Deviation
Teachers	173	2.38	1.717
Leaders	33	3.39	.704
Total	206	2.54	1.640

ANOVA

Convenience of Training Time	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	28.407	1	28.407	11.087	.001*
Within Groups	522.700	204	2.562		
Total	551.107	205			

One-way: (Qualification as Independent Variable)

Descriptives

Respondents by Qualification	N	Mean	Std. Deviation
Diploma	96	1.75	1.114
Bachelor degree	66	2.27	1.365
Masters degree	3	2.00	1.732
Others	41	4.88	.640
Total	206	2.54	1.640

ANOVA

Convenience of Training Time	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	289.626	3	96.542	74.581	.000*
Within Groups	261.481	202	1.294		
Total	551.107	205			

T-Test ("Diploma" Vs "Bachelor")

Group Statistics

Convenience of Training Time	Qualification	N	Mean	Std. Devi.
	Diploma	96	1.75	1.114
Bachelor degree	66	2.27	1.365	

Independent Samples Test

Conveniences of training time	t-test for Equality of Means		
	t	df	Sig. (2-tailed)
	.674	160	.018

T-Test: ("Diploma" Vs "Masters ")

Group Statistics

Convenience of Training Time	Qualification	N	Mean	Std. Deviation
	Diploma	96	1.75	1.114
Masters	3	2.00	1.732	

Independent Samples Test

Convenience of Training Time	t-test for Equality of Means		
	t	df	Sig. (2-tailed)
	-.377	97	.707

*= p value < 0.05

T-Test: ("Diploma" Vs "Others")

Group Statistics

	Qualification	N	Mean	Std. Deviation
Convenience of Training Time	Diploma	96	1.75	1.114
	Others	41	4.88	.640

Independent Samples Test

Convenience of Training Time	t-test for Equality of Means		
	t	df	Sig. (2-tailed)
	-16.804	135	.000*

T-Test: ("Bachelor " Vs " Masters ")

Group Statistics

	Qualification	N	Mean	Std. Deviation
Conveniences of training time	Bachelor	66	2.27	1.365
	Masters	3	2.00	1.732

Independent Samples Test

Conveniences of training time	t-test for Equality of Means		
	t	df	Sig. (2-tailed)
	.335	67	.738

T-Test: ("Bachelor " Vs "Others")

Group Statistics

	Qualification	N	Mean	Std. Deviation
Conveniences of training time	Bachelor	66	2.27	1.365
	Others	41	4.88	.640

Independent Samples Test

Conveniences of training time	t-test for Equality of Means		
	t	df	Sig. (2-tailed)
	-11.450	105	.000*

T-Test: ("Masters " Vs "Others")

Group Statistics

	Qualification	N	Mean	Std. Deviation
Conveniences of training time	Masters	3	2.00	1.732
	Others	41	4.88	.640

Independent Samples Test

Conveniences of training time	t-test for Equality of Means		
	t	df	Sig. (2-tailed)
	-6.591	42	.000*

*= p value < 0.05