

**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES**

**THE IMPLEMENTATION OF
10+1 - DRAFTING CURRICULUM
OF ADDIS ABABA TVET**

**BY
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10+1 DRAFTING CURRICULUM
OF ADDIS ABABA TVET**

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ADDIS ABABA UNIVERSITY

School of Graduate Studies

**The Implementation of
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Of Addis Ababa TVET**

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LIST OF ACRONYMS

EGSECE	Ethiopian General Secondary Education Certificate Examination
ESR	Education Sector Review
ESDP	Education Sector Development Program
ETP	Education Training Policy
GDR	German Democratic Republic
GTZ	German Technical Cooperation
ICDR	Institute of Curriculum Development and Research
IER	Institute of Educational Research
ILO	International Labour Organization
MOE	Ministry of Education
NGO	Non – Governmental Organization
PSIR	Political Science and International Relation
SNNPR	Southern Nations, Nationalities and People’s Region
TVE	Technical and Vocational Education
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
USSR	Union of Soviet Socialist Republic
VE	Vocational Education

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The development and construction of a well – organized curriculum is one of the requirements for it to be effective. The test of a well – organized curriculum is, thus, obtained through a thorough inquiry into its practicality and ultimate worth. Tyler (1949) indicates, “Curriculum development is not a theoretical study.” He further stated that, its main purpose is not to obtain new knowledge: it is a practical enterprise. The major objective of designing educational program is to bring about certain desired changes as a result of learning new experiences that will be significant to the learner in particular and the society at large. Due to this and other related reasons, curriculum needs to be planned, executed, evaluated and re-planned, and repeat the cycle. Curriculum is dynamic and that is why it needs to be evaluated, and re-planned and the process has to be done again and again.

After the designing process of a new curriculum is over, it is obvious that there is a need to test it whether or not the anticipated aims are achieved as required. As Saylor, Alexander, and Lewis (1981) stated, “the ultimate test of a curriculum plan lies on its implementation.” However it is not the scope of the study to deal about the product of the curriculum. Hence, there would be no reason for developing curriculum if there was no instruction or implementation. Getachew (1994) shares the aforementioned ideas saying that, “All curriculum planning is nothing unless it influences and shapes the things which students do.”

The important stage of curriculum development process is its implementation stage, but this is the most neglected part, as designers do not give the attention it deserves. Pratt (1980) indicated that the tasks of designing a curriculum are not completed when the last word is written. The designer's work reaches fruition only when the curriculum makes an impact on the learners. Many excellent curricula have had insignificant results, because designers limited their focus on production rather than implementation of programs. A good designer should also take a part in the implementation process.

There are a number of factors that influence the implementation of a curriculum. Berger (1974:58-59) and Harlen (1997:117) indicated that the ultimate responsibility for implementing the curriculum falls on the teacher. According to these writers, it is the teacher that makes the final decision concerning the actual learning opportunities providing to students. The best-designed curriculum as well as the poorest ones ultimate success or failure depends on the quality of the teacher's own planning and implementation. Implementation will be hampered if teachers do not understand what is wanted, or if they do not make a genuine commitment to ensure its success. In this regard, upgrading the skills of teachers is vital if the implementation of any new curriculum is to be effective.

Thus, any plan, be it curriculum or any other social policy, its implementation largely depends upon the daily activities of the organizational members who are in charge of its implementation. As Adams as cited in Fullan and Pomfret (1999) argued, if the response of the practitioner acts against the intention of the designers, even the most carefully prepared and strongly supported plan is unlikely to be implemented as intended.

Fullan and Pomfret (1977) have reviewed a number of research works in curriculum implementation in the U.S.A. They identified four groups of determinants on implementation: (a) “characteristics or innovation”, the degree of explicitness or complexity of the curriculum, (b) the “strategies and the tactics”, which comprise of the training background of teachers, resource support, feedback mechanisms and participation of teachers in the innovation process, (c) “characteristics of the adopting unit, which include the adoption process, organizational climate, environmental support and (d) demographic and the “microsocio –political” factors. These are the roles played by political agencies (local and national).

In agreement with the aforementioned determinants of curriculum implementation, Walsh (1976) in Finch and Crunkilton (1979) indicates that educational materials play a key role in implementing the new curriculum. While argument could be made against such statement, educators must not underestimate the role that quality curriculum material can have in creating an effective teaching – learning environments. In technical and vocational education quality training mainly depends on providing quality curriculum materials for the teacher who is the implementer of the program.

According to Finch and Crunkilton (1979) curriculum materials are resources that if used properly can assist a teacher in bringing about the intended behavioral change in individual students. Finch and Crunkilton (1979) identified print materials, audiovisual materials, and manipulative aids as few of the curriculum materials that can be assist in creating a conducive teaching-learning environment. In implementing the new curriculum these

curriculum materials need to be readily available so that effective teaching and learning can take place.

Many researchers reported disparities between planned and implemented curriculum. Cohen (1985) and Ousick (1986) in Dawit (1999) found that teachers usually transform meaningful challenging tasks into routine, risk free tasks and turn the learning of critical thinking into memorization of facts and the performance of mindless tasks. Walberg and Geneva (1990) as cited in Dawit (1999) also stated that new curriculum often fail to be adopted or used as intended due lack of proper implementation. The above writers agreed that actual implementation of a curriculum is difficult, equally important as development and needs to be examined.

As Posner, (1992) stated, curriculum analyst and evaluators should scrutinize the factors curriculum developers ignored for a smooth implementation of a new curriculum. The implemented curriculum needs also to be studied for it determines the assessed curriculum and experience of students. Implementation evaluation can also give additional information about what is going on in the classroom, besides classroom observation.

Comprehensive implementation evaluation seems to be scares in our country except the studies made by Getachew (1994), Dawit (1999) and Eshetu (2001). These studies are all in social science subjects. Such kinds of implementation evaluation in Ethiopia are not many in the field of technical education except that of Mesfin (1995) who made an effort to assess the contents of some technical subject curriculum in some schools of Addis Ababa.

The aforementioned studies also found the existence of disparities between the planned and implemented curriculum.

An effort has been made by the Ministry of Education to design and implement new Technical and vocational education and training (TVET) Curriculum in the following years after the 1994 ETP was put into effect. The TVET curriculum is designed based on problem solving and experimental approach, and introduced the learners to the broad spectrum of technological fields and to productive work situation. The new TVET program, which replaced the old 10+3 technical schools training program, was launched in September 2001.

The middle level technical and vocational training is planned to be offered at three different levels. The programs are: 10+1, 10+2, and 10+3 (one year, two years and three years respectively). The programs are designed in an attempt to answer what is stated in the new education and training policy (1994: 16). The policy states that, "Parallel to the general education, diversified technical and vocational training will be provided for those who leave school from any level of education." The training is provided to those who completed grade ten for development of middle level manpower (Ibid)

The main objectives of middle level technical and vocational training, TVET, are:

1. Create middle level clerical/technical work forces in the various occupations/jobs in the areas of Business and IT, industrial/ Technical and Construction, Hotel services, Beautification, Textile/Garment Technology.

2. Develop the problem solving capacity of trainees by providing them adequate knowledge and skills.
3. Enable trainees to utilize resources wisely and economically for the benefit of individuals and the society.
4. Bring up trainees who are self confident to take up business risks by establishing their own business relevant to their skill trade.
5. Enable trainees to work individually or in cooperation with group of people in their skills trade.

An effort has been made to reflect the above objectives while developing the new curriculum, which is prepared by group of experts drawn from various appropriate governmental and non-governmental organizations.

The curriculum is prepared based on the modular approach where a number of independently prepared modules of employable skills are produced with the objectives to providing trainees with the skill required to perform under prevailing conditions and established standards, all tasks that are related to a given job and occupation.

It is indicated in the education and training policy (1994:25) that “coordinated curriculum development will be ensured so that students and trainees will acquire the necessary entrepreneurial and productive attitudes and skills.”

It is anticipated in the policy that the training program prepares trainees to be absorbed or employed in the informal sector and to work in the medium and small enterprises as wage

employees performing the practical duties effectively and efficiently tailored to the given trade.

1.2 Statement of the Problem

The way a curriculum is planned and established has great impact on its quality. The process used to define and determine that quality is also of equal importance. The role of implementation evaluation in curriculum cannot be over emphasized. When utilized properly, implementation evaluation can help ensure that the curriculum is of a high quality and that deficiencies are identified before they cause major problems (Finch and Crunkilton, 1979).

Evaluating the implementation of any curriculum is quite complex and a time-consuming task. The researcher's intention is not to evaluate the implementation of the entire TVET programs. The present study, thus, attempts to study the implementation of only 10+1 drafting curriculum, which was launched in September 2001.

The purpose of the study is to evaluate the implementation of TVET training program (10+1 drafting curriculum) and to identify the outcomes as well as problems encountered in translating it into practice. More specifically the study aims:

- To examine the extent to which the guidelines set in the curriculum are put into practice.
- To evaluate the attitude, capability and limitation of the teachers in effectively implementing the curriculum.
- To indicate the way the curriculum is implemented.

The study will attempt to find answers for the following key research questions.

1. How conducive is the teaching - learning environment in the training centres for the full and effective implementation of the curriculum?
2. Is the implementation of the 10+1 drafting curriculum effective in enabling learners to have mastery of the subject matter?
3. What are some of the constraints, which affect the implementation of 10+1 drafting curriculum?
4. What general problems are there if solved would improve the implementation of 10+1 drafting curriculum?

1.3 Objectives of the study

The purpose of the study is to evaluate the implementation of 10+1 drafting curriculum in TVET centres of Addis Ababa and to identify the effect as well as problems encountered in implementing it. More specifically, it aims at: -

- Identifying the role played by teachers in effectively implementing 10+1 curriculum.
- Assessing the extent to which the learning –teaching environment (classroom interaction) is conducive for effective implementation of the curriculum.
- Indicating the extent to which the curriculum guides, as well as useful instructional material are utilized in the classroom.

1.4 Significance of the Problem

As mentioned earlier, many research findings indicate that newly introduced curriculum faces a lot of problems during its implementation stage by practitioners of the curriculum.

Hence it is vital to assess the implementation of the new drafting curriculum to find out whether it has been implemented as intended or not. The implementation of the 10+1-drafting curriculum started in September 2001 and it is high time to investigate its effectiveness.

It is envisaged that the findings of the study will be of assistance to teachers, students, support staff at the training centres and policy makers at national level. The study is expected to contribute the following field of education in general and to technical education in particular.

- It would shed light on theoretical frameworks by indicating the extent to which 10+1 curriculum is utilized and integrated with the new curriculum.
- It would explore the major and common problems encountered in implementing the curriculum.
- It would be a resource that would encourage others to undertake further study in the area of evaluating the implementation of TVET training program at different levels.
- The study will also serve as one of the crucial endeavors from the point of view of enhancing the quality of education.

1.5 Delimitation of the study

The result of the research would have been more comprehensive if it covered the entire middle level training centres across the country. The researcher, however, believes that the findings from this study would still be indicative of the national situation because of the following reasons:

1. The training centres such as Entoto Technical and vocational school, Addis Ababa technical schools, and General Wingate Construction School, have relatively qualified and experienced staff in the area.
2. The centres are relatively well-organized and well-furnished training centres and with good standard of drawing studios, which enable the researcher to collect useful and reliable data.

On the other hand, the study covered only government training centres not private schools. The main reason for this is to minimize the variations that could possibly exist between government and non-government school in terms of policy, organization and resources pertaining to utilization of instructional materials.

1.6 Limitations

The study is not conducted at the national level, the findings, which would have been the basis for fair generalization, are not free of limitations. The basis not undertaking a national level research is due to, mainly, the time factor.

Furthermore, since the study does not include the implementation of 10+2 and 10+3 drafting curriculum, the findings may not reflect the situation of these levels. The reason for not including these levels of training is due to time and money constraints.

1.7 Definition of Terms

Apprenticeship: -

means “ job training undertaking by a trainee in an organization pursuant to an agreement concluded among a training institute, an organization and trainee to enable the trainee to put to practice the technical and vocational education and training he acquired in a training institute and to be acquainted with work.

(TVET Proclamation No. 391/2004:2554)

Evaluation: -

Is a process of gathering detailed information to be used as basis for judging the effectiveness of instructional program.

Implementation: -

Refers to the actual use of the curriculum to put into practice what has been intended.

Implementation Evaluation: -

Refers to value judgment on the basis of evidence obtained from the actual use.

Technical and Vocational: -

Education

is education that is designed to train and educate students in specific traditional and modern fields of vocational skills for students who have completed grade 10 and show sufficient desire and inclination to train in the fields of their choice.”

(MOE, 2002: 94, GTZ, 2000:5).

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter provides a theoretical base for the study by reviewing the literatures related to technical and vocational education and the concept of curriculum implementation.

The chapter is organized into two major sections. The first section looks at and takes general view of Technical and Vocational Education and its developmental stage while the second part deals with the concept of curriculum implementation evaluation as seen by different scholars and the essentiality of curriculum implementation evaluation which enable us to identify differences between curriculum anticipation and realities.

2.1 **Historical background of Technical and Vocational Education**

2.1.1 **Introduction**

Vocational education (VE) is a relatively modern development (Zywiece, 1993: 414). As stated by Zywiece, until the 19th century, such education, except for the professionals, was provided only by apprenticeship. This situation was partly due to the fact that low status was associated with such instruction as opposed to a classical curriculum, which was considered “necessary for gentleman.” With the growing industrialization during the 19th century, however, several European countries, notably Germany, began introducing vocational education in elementary schools (Ibid: 414). In Great Britain, however, opposition to vocational education persisted until the 20th century, although a few trade and technical schools were established by local authorities before World War II. According to Zywiece, by the late 19th century, public (common) vocational education schools in the United States

consisted of manual training and practical arts. As stated by Zywiec (1993: 414) “these programs were gradually expanded until the 1917 when federal aids were provided to public schools for trade and industrial, agriculture, and homemaking courses.” After World War II, the demands for trained paraprofessionals in the relatively new fields of computer Science, Electronics, and Medical services led to an increased interest in short term postsecondary specialized training programs in these areas as an alternative to traditional college education (Ibid: 415).

Following the above gradual development of TVET, now the sector become the agenda for almost all countries because economic development cannot be achieved without having of well-trained skilled workers. Hence, the preceding discussion will give ideas as to how the development of TVET took places and its present status. TVET in Ethiopian context as well will be discussed thoroughly.

2.1.2 **The development of TVET**

The origin of technical and vocational education (TVE) reach deep into the historical past. The mores of every culture leaving written records have included unmistakable evidence of this fact (Pauter J. 1990). Most trade education in the ancient nations was conducted as a father son relationship. Musgrave (1979:42) indicate that, “It is natural that the family socialized its young in a different way according to its peculiar characteristics.” It is within the family that the child’s personality is developed in the early and formative years.

Abramson et al (1979:19) and Brembeck (1979:2) argued about the root of TVE. According to these writers, “technical and Vocational education in its informal form has its origin when

people began to live together and started producing basic requirements to meet.” Since then knowledge continued to pass on from father to son orally and was meager in quality.

In order to fulfill the basic needs easily, man started hunting and gathering food, which resulted in the production of tools such as digging stick, stones, axes etc. Abramson et al (1979:19) stated that, “People gradually learned to use fire to cook and melt metals to produce tools.” Hence, division of labour came into existence and people chose professions of their choice leading to the birth of narrow specialization such as black smith, carpenters, masons, or weavers and so on. The new social development brought different craftsmen to form social groups and out of these social groups the guilds of Middle Ages – evolved (Ibid).

Due to the social and economic development of society, the need to transmit the required skills purposefully emerged. The method of training through planned experience namely, apprenticeship developed as a result of societal development and needs.

It is during the middle age era that the apprenticeship was served under the guilds association (association to protect the interest of members in the same craft). Traditional apprenticeship came into existence, because, the transmission of family heritage and unconscious learning was not satisfactory (Hanson’s 1977:24). Finch and Crunkilton (1979:2) stated that, “organized apprenticeship programs were recorded as having been started for scribes in Egypt as early as 2000 B.C.” They further stated that, “Apprenticeship program was initiated in ancient Palestine, Greece, and other Countries as well that were aimed at training youngsters in craft or trade through close association with an artisan (Ibid: 2).”

The main objective of apprenticeship was to enable youth learn any trade under the supervision of master craftsman and according to established specification. According Brubacher (1987:6) in apprenticeship system, "Training and production are integrated towards the development of the apprentice into adult life." Traditional apprenticeship was the system where the trainees (apprentices) get training by working with their masters and live with the family of the master. The apprentice has to pay his master for the training offered (Ibid).

Later the demand for mass production was observed due to the rapid development of power machinery and the increased demands for goods, which was resulted in the decline of traditional apprenticeship. As Abramson et al (1979:19) stated the industrial revolution in the early 1800s was the main reason for the decline of traditional apprenticeship. Following this event modern apprenticeship became into existence, which paved a way for the development of the new type of formal schools. The increased demand of skilled workers who can work as operators of these new powerful machineries forced the owners and managers of industries to look for better training methods and alternate practice to attract youngsters to adopt the mechanized profession. This necessitated payment of subsistence allowance to the trainees so that he/she can live independently and learn. Thus, the practice of living with the master during apprenticeship came to an end (Ibid).

As to the effectiveness of apprenticeship, a research finding in Israel indicates that modern apprenticeship is cheaper and more effective than vocational schools (Laugo, 1993:34. Hence, modern apprenticeship is being considered as one of the most efficient cost effective

mechanism in terms of saving the cost of the government expenditure because employers share most of the cost of the apprenticeship and uses the same resources (instructors, equipment, materials, time etc.) the industries uses, which is one of the factor to be considered for minimizing the total cost of the training.

However, apprenticeship (both traditional and modern) did not continue for long as industries and commercial enterprises grew at a faster rate, and the program became inadequate to produce skilled manpower. Therefore, the need to establish formal school became desirable and different educational philosophers forwarded proposal as to how technical and vocational education can be integrated within the formal school system.

Finch and Crunkilton (1979:2) stated that, "By the sixteen century, alternative to apprenticeship was being strongly considered." Educational philosophers such as Comenius and Locke proposed the inclusion of manual arts in the formal system. Samuel Hartlib set a proposal forward for the establishment of Agriculture College in England. According to Bennett (1926) in Finch and Crunkilton (1979:2) these and other educational reformers had contributed for the introduction of TVET into the formal education. "Rousseau's recognition of the fact that manual arts may be a means of mental training marked the beginning of a new era of education" (Ibid: 3).

As far as curriculum development is concerned, Finch and Crunkilton (1979:3) stated that, "Perhaps one of the earliest forms of systematic curriculum building in vocational education may be attributed to Vector Della Vos, director of the Imperial technical school of Moscow."

According to Lannie (1971) as cited in Finch and Crunkilton (1979:3) “a new approach to teach the mechanical arts, which were forwarded became a catalyst for vocational education in the United States’.”

In United States in 1900, strong public sentiment for vocational education (VE) had developed. As the industrial revolution continued to expand, a need for skilled workers increased, which was resulted in Smith – Hughes Act of 1917 (Finch and Crunkilton 1979: 4). The Act had profound effect on the public vocational and technical curriculum in America (Ibid: 4)

Since then TVE has been expanding fast and became the agenda for almost all countries. As mentioned earlier after World War II, the demands for trained professionals in various fields such as computer science, electronics, and medical services led to an increased interest in different types of training programs in these areas as an alternative to traditional college education and training centres (Zywiece, 1993:415).

During the 1980s, there has also been an increasing awareness that the nature of society and jobs changed drastically since the early 1960s. Society had entered the information age, with large components of services, which is one of the major reasons for the fast expansion of TVE Worldwide. Then, many Countries started to pay attention for the establishment of training centres and technical colleges in order to render effective services in technical and vocational field of studies.

2.1.3 Definition of Technical and Vocational Education

There are scholars who contend to define all education as vocational education. In this sense, the definitions of vocational education become broader. Scholars such as Swans (1959:305) as cited in Ainley (1990:6), and Entwistle (1970:56) describe vocational education as a “term which is more comprehensive” and which “embrace technical education and the learning of technical competence.”

Entwistle (1970) in addition, contends to suggest that “general”, “vocational “ and “technical” education are related to each other, rather than an inclusive terms or concepts (Ibid: 167). According to him, “general education” is the most comprehensive “vocational education” is the next comprehensive term, which embrace technical education and/or technical training. Hence, Entwistle regards vocational education and/or technical education as part of general education.

Other scholars tend to put clear demarcation between vocational and technical education. According to Clark, et al (1965:324) as cited in Mesfin (1995: 53) vocational education implies to be a “formal instruction at the high school level” and has a function of preparing students “ to work in specific occupation.”

Generally, the above scholars contend to indicate that vocational education differs from that offered at post high school level and curriculum that requires higher skill and longer periods of training.

On the contrary, the proponents of technical education saw technical education as that type of education, which designated post high school courses, and curriculum, which requires higher skills, and longer periods of training (Evans, 1971:183). According to Evans (1971) technical education refers to a level of education rather than a type of education and it is not a type of education for certain engineering technologies.

Wiles (1963) defined technical and vocational education as “course used by a students to prepare for an occupation.” Twining (1987) definition of vocational and technical education is some how different from the above definition. Twining define technical and vocational education in relation with the “location of learning.” Vocational education according to Twining is “education that takes place in post high school institution other than Universities.”

For the purpose of this study, our definition will be that technical and vocational education training is education that is designed to train and educate students in specific traditional and modern fields of vocational skills for students who have completed grade 10 and show sufficient desire and inclination to train in the fields of their choice.” (MOE, 2002: 94, (Unpublished), GTZ unpublished report, 2000:5).

2.1.4 **Controversy on TVET**

There are a number of arguments and beliefs about technical and vocational education. According to Evans (1971) there are scholars in favour of technical and vocational education

who say that technical and vocational education develops not only the knowledge and skills that is essential for specific occupation but also the individual's intellectual capacity.

Flobel and Postalozzi in Goodson (1994) argued that schooling was most effective when all students were able to use their hands to complement the mental activity of learning. By the first decade of the twentieth century, the philosophy of 'social efficiency' has largely eclipsed these forms of technical education. According to Goodson (1994) 'social efficiency' reformers believed that the traditional high school curriculum with its heavy emphasis on classical and academic subjects, was not suited to the interest, attitudes and occupational needs of most students. They claimed that while the academic or 'humanist' curriculum prepared future teachers, lawyers, doctors and clerics for their adult jobs, it fulfilled no vocational purpose for the majority of young people, who would later become industrial laborers, office workers or homemakers (Ibid).

On the other hand, there are scholars such as O'Hear (1981) who only favour general education that appear to be in doubt that technical and vocational education could be regarded as a means for the intellectual development of the individual. For such scholars, it is only history, mathematics, sciences, literature etc. that enable individual to develop their skills and intellectual capability and argued that less emphasis should be given to TVET.

Douglas (1992:42) regards technical and vocational education as equally important as general education. Douglas further suggested the idea of integrating "vocational courses" into the existing curriculum so that all students would benefit from vocational education. Tucker (1992:19) as cited in Mesfin (1995) share Douglas's ideas and have gone to the extent of

believing that “It is time to abolish the general, vocational and academic tracks and establish what is known as “mastery standard” for all students. He further argued that technical and vocational education should be given to all students. In addition to this, he also believes that, having a diploma after having gone through, say, twelve years of schooling, does not tell what knowledge the person possess and what he/she can do. He had suggested that, this must be reversed by applying the concepts of “mastery standard” which has to be fixed and note by the students at the end of their learning.

In conclusion, the debate between those who favour technical and vocational education and those who favour academic education seem to remain unresolved. But no body is in doubt that technical and vocational educational and training program is vital for the economic development of any country.

2.1.5 Purposes/Objectives of Technical and Vocational Education

The purpose of technical and vocational education is mainly focused to that type of education, which leads to particular occupation. The purpose of technical and vocational education is a reflection of the definition of the two terms, technical and vocational: seen from such point of view, schools that are concerned with the provision of subjects that are technical and vocational nature have the responsibility of training people who would be able to work in the occupation available. In supporting the above idea, Evans (1971:9) indicates that the objective of meeting the manpower needed to society is the “earliest and widely accepted”. Thus, one of the primary purposes of technical and vocational education-training

program is to meet the skilled manpower need of the specific area in which the schools have to operate.

Another objective of technical and vocational education according to Evans (1971) is that it is increasing options to students so that they could join any areas they want. The availability of vocational education, as indicated by Evans gives students an opportunity of having more options in relation to the options that may be possible by attending general education.

In addition to the above objective, Twinning (1987) indicated that technical and vocational education should be seen as the means of resolving the problem of unemployment of school leavers.

The main purpose of technical and vocational education in Ethiopia is more or less similar with the purposes discussed above. The Educational Training Policy and Its implementation (2002:91) state the following as far as the purpose of technical and vocational education is concerned.

The aim in all these program is not only to train manpower for the development program that the country is in the process of implementing, but is also intended to encourage the trainees to create jobs themselves and contribute to the national development efforts.

In the preceding pages efforts has been made to discuss technical and vocational training in Ethiopia and how it developed.

2.1.6 Technical and vocational education in Ethiopia.

2.1.6.1 General background

Traditional attitudes in Ethiopia relegated the skilled worker to the status of an outcast. Potters, metal workers, leather workers and wood carvers were despised and excluded from the possibility of owing land which was the foundation of the feudal society. These attitudes persisted until the revolution of 1974. The fascist invasion in 1935 had important cultural side effects. In the process of developing a colonial economy and social infrastructure, the Mussolini regime imported an estimated 200,000 Italian artisans and technical personnel who were required for elements of modernization under fascist rule (MOE, 1984).

In 1940's and early 1950's, a number of institutes for technical and vocational training were established to train technical personnel who can meet the need for middle level manpower (MOE, 1984). The basic objective for establishing these training institutes was to produce administrative and managerial elite who can fill the vacancy available.

In 1974 when the Military government took power from the monarch, the enrollments in technical and vocational training was observed to be very low. During this time technical and vocational education found to be poorly developed with only few schools in Addis Ababa and in other bigger towns such as Awassa, Dire Dawa, and Nazareth. It was found as well that the comprehensive system of offering technical and vocational education to be a failure and there was a plan to change the whole set of the system to general polytechnic education.

Although, steps have been taken since 1974 to give attention for technical and vocational training, the outcome was not as expected. The system that was introduced during the military government (general polytechnic education) was a direct copy of the then Eastern block countries such as the former USSR, GDR, Cuba and the like. Generally, polytechnic education system program of training have been defined for a number of skill areas designed to supply middle level technical manpower (Ibid).

Starting from 1991, technical and vocational education has been gaining its momentum and become the agenda of the present government. According to the existing education and training policy (1994) attention has been given to this sector having in mind that the general development of this country will be unthinkable without producing well-qualified middle level skilled personnel in various fields of studies. Introducing a variety of fields into the program and changing the general policy and the general goals of technical and vocational education has manifested this fact. Hence, the TVET (Technical and vocational education training) expanded through out the country and the number of schools jumped from 17 to 126 in 2001/2002 academic year (MOE, 2002: 15).

Generally speaking, the development of the TVET sector of education in Ethiopia is still in its infancy and remained a neglected sub sector of education until recently (MOE, 2002). The international comparative data (1994) as cited in MOE (2002:14) stated the following.

The proportion of TVET to academic students at the secondary levels of education in Ethiopia was nine times less than that of the sub – Sahara African, as a whole. When compared to Europe, this proportion was 36 times less for Ethiopia.

Though the expansion of TVET in Ethiopia is less when compared with other countries, it is vital to discuss how the sector was developed through time. Hence, the discussion in the preceding pages gives an idea as to how technical and vocational education has been evolved in Ethiopia

2.1.6.2 Technical and Vocational Education (TVE) Before 1974 - ERA I

Teklehaimanot (2002: 2) stated that, “the most important factor for development is the skill and knowledge of people.” He further stated that, “there was a time back in history when Ethiopians valued the skill of people and as a result, the country was relatively an important centre of technology and arts of that time. (Ibid: 2). Technical and vocational education was superior in ancient Ethiopia. In supporting this fact Teklehaimanot (2002: 2) writes:

The culture and architecture remains unequivocally stand witness to this fact. Art, music, sculpture, literary work and Commerce in Ethiopia were superior to those in the now developed countries of the world that time.

The start of TVE in this country is attributed to Emperor Tewodros and Emperor Menelik II who gave chances for foreigners to involve in training the young Ethiopian back then. The objective of the training was to train personnel who can maintain modern equipment that are imported from Europe. The field of the training was mechanic, technicians, maintenance personnel and the like (Wagaw, 1979).

It was during emperor HaileSelassie time that the first technical school, Addis Ababa technical school was established in 1943 (Wagaw, 1979:60). The objective for the establishment was to meet the growing demands for skilled technicians in the industry (Ibid: 60).

Another development observed in expansion of technical and vocational education training was the establishment of the Addis Ababa Commercial School in the annex with Menelik II School in 1945 (Wagaw, 1979:60). It has now changed its status to college level and is one of the prominent higher institutions as far as business and secretarial Sciences field of studies are concerned.

One of the important vocational schools established during the so called “reconstruction era” is Ambo Agriculture School. The school opened in 1946 as a centre for the study of agriculture in Ethiopia (Wagaw, 1979:61). Although the long-range plan was to raise it to college level, the school remained as secondary level throughout the period from 1946 to 1951 (Ibid). From the beginning, Ambo Agriculture School was well staffed and well equipped with agricultural tool and machines. A complete agriculture laboratory was received from the United States.

Jimma agriculture school was opened in 1955 with similar objectives as that of Ambo agriculture school, which was aimed at producing modern agriculturalist to fill the vacancies that arise in the area of agriculture (Wagaw, 1979).

Bahir Dar Polytechnic which was established after Jimma and Ambo agricultural schools was one of the institutes established with basic objective of training a well-capable technical personnel who could work in the industry as technicians and technical managers. According to Wagaw (1979) the polytechnic was established in 1963. The field of study were: Agro Mechanics, Electrical, Textile, Wood Technology, Metalwork Technology, and Industrial Chemistry.

As it is well known missionary society had an important role in introducing modern education in Ethiopia. This was true also in expanding technical and vocational education. According to unpublished report of the ministry of education (1984) the seven-day Adventist mission society had opened a technical and vocational school at Kuyera (Oromia State region) in 1946 with major objective of training young Ethiopian in various technical and vocational fields to meet the growing demand of trained manpower.

In 1960 the Philadelphia mission society established a technical school at Awassa, which was nationalized by the military government later was one of the schools founded during that time and had served its purpose and still continue to train students in different fields of study. The courses offered were: Carpentry, Bricklaying, Tractor driving, Auto Mechanics, and Metalwork.

Another development observed in the developmental process of TVET before 1974 was the introduction of “comprehensive” program in the formal educational system. As Girma et al (1990:12) stated, “Comprehensive program was introduced in 1961 to the secondary schools of Ethiopia”. The objective of comprehensive program was to prepare students for different jobs and replace the previously established training centres because it was found that they were less adequate to satisfy the growing demand for skilled manpower. To achieve this objective, Agriculture, Industrial Arts, Commerce, and Home Economics were offered side by side (see appendix 8) with academic subjects (ESR. Task Force 2, 1972: 55).

Accordingly, Woizero Sihen secondary school in Dessie was the first general secondary school to be converted to comprehensive secondary school in Ethiopia and later many other schools were converted to comprehensive secondary schools (Girma et al, 1990).

Later, it was observed that, the inadequacy of the comprehensive schools did not satisfy the public since graduates of comprehensive schools became unemployed. The main reason for the unemployment of the graduate as Negatua (1989:5) as cited in Desalegn (1996:50) indicates the inadequacy of the training system of these schools. The dissatisfaction by the public continues to grow and reached its climax and the government was forced to take action, which was resulted in revising the entire education system. In this connection, the ESR (Educational Sector Review) was officially constituted in October 1971 (Tekeste1990: 9). The review in relation with TVET revealed that, “The

existing educational system produce large number of academically trained schools leavers ... and who lack employable skills” (ESR. 1972:11).

In addition, Girma et al (1990:9) state that the programs of the TVE and comprehensive schools were not designed in congruence with the teacher training schemes in the field, which could be another possible reasons for the comprehensive system to be ineffective.

From the above discussion it can be concluded that, era 1 was the era of comprehensive secondary schools, which was introduced into the general education system. However it has been observed that, there was public dissatisfaction in the inadequacy of comprehensive schools and some specialized schools such as Ambo, Commerce, Addis Ababa Technical school and that of the educational system in general which forced the government to take measure and review the system.

2.1.6.3. Technical and Vocational Education (TVE) from 1974 to 1991 – ERA II

As far as the expansion of technical and vocational training is concerned, Peter Gumble et al (1983) stated that, “The system of technical and vocational training under the Ministry of Education has until 1974 been very small. He further stated that, “Before 1974 this consisted of two full-fledged technical schools, commercial school and Polytechnic institute and few missions schools in different parts of the country.”

During Era II there was a shift both in the goals and objectives of technical and vocational education. Thus, the military government primary tasks as far as technical and

vocational educational is concerned was to identify the major problems/drawbacks of the sector. Based on this, the MOE was able to identify the shortcoming of the pre-revolution education system so as to change the then working curricula. The assessment by MOE showed the irrelevance of the curriculum to bring the desired socio - economic development of the country.

The irrelevance of the curriculum could be seen from the point of view of the new social system change that took place in the country, which envisaged a corresponding change in the previous curricula. Hence, contrary to the previous policy, the new program was geared towards the development of all rounded human personality. Therefore, a concept of preparing work related subjects placed in a polytechnical framework of education and replaced the old curriculum. Evans (1971:64) states that, “the purpose of polytechnical education is to help students to develop creative technical abilities and to inculcate a love and respect for physical labour and work.”

A system of general polytechnic education was introduced into the general educational system by the military government in some selected pilot schools with the objectives of enabling the young Ethiopians to appreciate and practice technical and vocational education.

The objective of general polytechnic education system is to provide student with the basic skills of technical and vocational education together with some academic subjects. The curriculum included major technical and vocational subjects such as metal works,

woodwork, electricity, auto mechanics, drawing, bookkeeping, home economics etc. The program was offered in few specialized technical and vocational training centers and in some pilot secondary schools.

The curriculum of general polytechnic education was as the name implies contains all technical and vocational subjects with the intention to produce all rounded technicians having all kinds of technical and vocational skill, which enable trainees to work in industry and other related office (see appendix 9).

According to MOE (1980:20-47) there are general, higher general, and extended TVET programs with in the system of polytechnical education. General polytechnic education was a program which included all the major areas of content treated appropriately for the junior secondary (7 –8) level while higher general polytechnic education was a program offered at ninth and tenth grades. The extended TVET program was given to prepare and produce skilled manpower.

The polytechnic program has been defined for a number of skill areas designed to provide a supply of middle level technical manpower. In order to train such manpower the Ministry of education foresees few technical and vocational schools offering courses in grade 11 and 12 (see appendix 8). The system comprised six schools, two technical schools and two mission schools transferred to the Ministry of education in 1974 (see appendix 10).

The six schools mentioned above had in 1981/82 combined output of 1,600 students in various technical and commercial courses. Entrance to these schools varies from 8 to 10 years of formal education and the duration of courses ranges from 2 to 4 years. In addition a variety of vocational streams are offered in the then comprehensive secondary schools.

Later, it was found that, the education given in TVET schools was not related to available fields in the industries. It failed to prepare students for the other available jobs and as a result, the majority had to employed in jobs that had no connection with their training. To this end, in 1983, the government passed a resolution calling for a review of the education sector (Tekeste, 1990:18). As a result of this review in 1985, a 10+3 year program was inaugurated and new training policy composed of various criteria become functional. This changes was intended to equip the prospective graduates with better knowledge and skills, which could not cover at the previous 10+2 level.

General polytechnic education served to some extent but has failed for many reasons. One of the criticisms is that number of subjects offered to student. Many scholars were against this system because the number of subjects offered to students to learn is too much and beyond the capacity of students.

Another criticism of the system is that the period allotment for each subject is not sufficient to cover the curriculum in the given period of time. Generally speaking, the time allocation was not sufficient due the excessive subjects that were offered.

As discussed earlier, the previous 10+2-training program was replaced by 10+3 program. The 10+3-training program was launched to fulfill the following specific objective of the training program.

- To develop the skills of modern production system.
- To familiarize one with the processes and the means of production in the economic sector.
- To link theory and practice.
- To practically and effectively participate in local development activities.

Gumbel et al, (1983) stated that starting from 1974 the government started to remove the obstacles standing on the way of technical and vocational education in terms of bringing a change in attitude, allocate adequate funds to the sector, and train manpower required, expand the infrastructure etc.

Technical and vocational education was offered at tertiary level as well. Some of the higher education institutes offering such types of education were Addis Ababa University, Asmara University, the College of Teachers education, the Municipality technical college and junior agriculture college in Debre Zeit and Awassa are among the few institutes (Gumbel et al, 1983). The major part of technical and vocational training was conducted under the then commission for higher education. The level of the training was at diploma and degree level.

Training centres attached to public organizations such as the Ethiopian Airlines, Ethiopian Telecommunication services, Ethiopian light and power authority, Air transport authority, Ethiopian road authority and general Ethiopian transport are some of the training centres to be mentioned. These training centres still playing a vital role in producing well-trained manpower in the specified fields for their own consumption (Gumbel et al, (1983).

Before 1991, there were 17 government and non-government TVET schools offering training in various occupations. This figure has not changed so fast even during the present government. MOE (1997) as cited in Teklehaimanot (2002:7) stated that, “in 1995/96 academic year there were only 2738 TVET students (out of whom only 725 graduated in that year) compared to 40,2753 enrollment in second level academic stream.” It was further stated that, “This means that 99.30% of the senior secondary students are engaged in academic sub – sector.” The above figure indicates that the sub-sector is still in its infancy.

Towards the end of the military regime it was observed that the existing training program has failed to fulfill its objectives and the program became ineffective. According to the study conducted by Berhanu et al (1992:27) around the fall of the Derge regime, trainees’ enrollment was declining. The reason according to these writers was the dissatisfaction of trainees in some fields of the program and the training given was not based on the real needs of the country.

The present government after taking power from the Derge regime in 1991 started to identify the major problems of the educational sector and efforts have been made to overhaul the entire system, which has given priority for formulating new education and training policy. In the preceding pages effort has been made to discuss how these tasks have been achieved.

2.1.6.4 Technical and Vocational Education (TVE) from 1991 – 2004 - ERA III

According to the Ministry of Education unpublished report (2001), among the major factors militating against rapid expansion and quality improvement of the program were irresponsive and rigid curricula, inadequate physical facilities and equipment, acute shortage of the qualified technical teachers and support personnel, poor managements, insufficient budget and materials allocation, weak linkage between the program and other development setups. However, the single most crucial problem was the absence of clear policy guidelines as to the exact role of the program in the socio – economic development of the county.

One of the major concerns of the transitional government of Ethiopia, which took power from the military, government, was to study the educational problems practiced over the years and formulate educational policy.

To this effect, the Ministry of Education was given the responsibility of facilitating activities with regard to the formulation of new educational and training policy.

Aware of the complex and interrelated problems the TVET system entangled with, the transitional government of Ethiopia has formulated the new education and training policy (ETP), of (1994), through which it has embarked on giving an appropriate direction to set a new process and change the worsening situation.

As stated in the education and training policy (1994) the provision of the diversified technical and vocational education and training to school leavers parallel to the general education is envisaged.

The policy encompasses, among others, over all education and training objectives and implementing bodies as springboard for further undertaking:

In line with the new education and training policy of 1994 the following have been identified as general objectives of TVET.

The major objectives of the TVET program are:

- To provide basic education and integrated knowledge at various levels of vocational training,
- To satisfy the country's need for skilled manpower by providing training in various skills and at different levels,
- To make education supportive tool for developing traditional technology, and for utilizing modern technology,
- To provide education that promotes the culture of respect for work, positive work habits and high regard for workmanship.

It is to satisfy these goals and objectives of technical and vocational education that the so-called new TVET program has been launched.

GTZ unpublished report, (2000: 4 - 5) stated that, diversified technical and vocational training have been provided for those who leave school from any level of education. To this effect, the following three major programs have been identified.

- Basic vocational training program for those who completed 1st level (grade 4) or dropouts from the 2nd level (grade 5-8) of the primary school with an appropriate age.
- Junior vocational training program for those who may not continue general education after completing primary education or dropout from grade 9-10 of the secondary school.
- Middle level TVET program: Of the three levels (10+1, 10+2, and 10+3) for those who successfully completed general education (grade 10).

After the identification of the three major program of TVET effort has been made to revise the old curriculum and design the new one, which reflect objectives of the TVET in general, and drafting training program in particular. Immediately, after the approval of the new education and training policy, MOE has taken the responsibility to design the new curriculum in terms of the goal of each educational cycle. Concerned departments from Ministry of education and other ministerial offices had participated in the designing process of the curriculum. Private enterprises as well participated in the processes. The preceding pages discuss the efforts that have been made to design the new curriculum.

2.1.6.5 The process of Curriculum Development

In designing and developing any curriculum there should be a clear policy and guidelines in order not to miss important elements during curriculum development and implementation. The education and training policy (ETP) (1994: 13-14), the basic document for major activities, envisages the following crucial points to be considered in the process of curriculum development.

- The preparation of curriculum will be based on the stated objectives of education and training.
- A mechanism will be created in which teachers, professionals from major organizations of development, and beneficiaries participate in the preparation, implementation and evaluation of the curriculum
- It will be ensured that the curriculum developed at central and regional levels are based on sound pedagogical and psychological principles and are up to international standards, giving due attention to concrete local conditions and gender issues.
- A mechanism will be created for an integrated educational Research, and overall periodic evaluation of the educational system, where by a wide – ranging participation is ensured to foster appropriate relation among the various levels of education, training, research development and societal needs, maintaining the required standards.

Hence, efforts have been made to consider the above major guidelines while the new curriculum at all level were developed.

The TVET curriculum is designed in modular approach, which created an opportunity to design practical – related training, supported primarily by apprenticeship programs and projects.

According to Ministry of education unpublished document (2002:14-15) there are 3 branches, 6 training areas, and 26 training fields where the curriculum is developed in modular form for 10+1, 10+2, and 10+3 levels (see appendix 7). The six training areas are construction Technology, Industrial Technology, Textile & Garment, Business & Information, Hotel service & Beautification, and Social development technology. Drafting is one of the twenty-six fields of training, which is categorized under construction technology training area.

2.1.6.6 **Principles of curriculum development**

The following are some of the principles followed by curriculum developers while developing the TVET curriculum. These principles were identified after analyzing some of internationally and nationally available documents (Ministry of Education, 2002:10).

- Completion of general academic education (grade 10) will be entry criterion.
- Curriculum should have a segment modular structure, sequentially ordered and organized as a program.
- Occupations are analyzed in to jobs, duties, and tasks with the extensive participation of subject experts and practitioner.
- There should be an objective of statement of criteria for every job, duty and task.

- There should be an integration of theory and practice, in the ratio of 30% theory and 70% practice for the main courses.
- The method of instruction should involve practical exercise and should include immediate feedback and remedial measures for deficiencies.
- Learning should be self-paced.
- Appropriate assessment procedures, which are mainly training objective – referenced.

The implementation of the new curriculum was inaugurated in 2002 and in 2003 the program has been revised to increase the duration of the program from two to three years and add some new training jobs.

As far as training centres and number of trainees are concerned, up to 2001 there were 13 government and 10 non-government TVET schools in the country with the total enrollment of 4561 students (MOE, 2002). In addition, there were 25 newly established skill development centres functions in four regions – Oromia, Tigray, SNNPR, and Amhara regions. A total of 8156 trainees were enrolled in these four centers, out of which 2486 (34.4%) were female (Ibid.). According to the Ministry of Education (2002:95 – 100) the middle level Technical and vocational schools were raised to 126 and are found in each administrative region. Ten of these training centers are found in the capital.

In relation with the quality of training is concerned it remained poor due to various reasons. Some of the reasons as identified by Ministry of Education (2002) were:

- Limited funding,
- Lack of appropriate and adequate equipment and facilities,

- Insufficient number of qualified instructors,
- Inflexible and outdate occupational standards,
- Lack of adequate centres and the real world of work,
- Lack of stoke holders participation in curriculum design and implementation,
- Insufficient management.

2.1.6.7 10+1 Drafting Curriculum development and its implementation

The middle level technical and vocational training program is divided into three categories, i.e. the 10+1, 10+2 and 10+3 program. All programs are offered at the completion of grade ten general education and required to obtain above average grades in the national examination. Trainees who join 10+1 program are those students who have taken grade ten national examination and get 1.4 and above for male and 1.2 and above for female (MOE, 2004: 47).

Drafting is one of the occupations of TVET and designed to be offered at three levels. In addition, the subject is offered for all technical occupations as supportive course. Drafting is the languages of industry where all engineers, designers, craftsmen, technicians etc. are communicate each other using this universal language (Luzzader, 1981). Without having sound knowledge on how to make, read, and interpret blue prints, it is almost impossible to work in the field of technical education.

The first year training curriculum package in the area of Drafting has been prepared based on major objective of TVET program and aims at developing middle level technical personnel (**assistant draftsman I**). According to curriculum guide for first year drafting occupation, MOE (2003), in the training year, which lasts 12 months, students are

expected to complete three main areas of studies namely, **main courses**, supportive **courses**, and **common courses**. In addition, students are required to attend a two months apprenticeship program starting at the end of each academic year. The package consists of three main courses developed for selected major areas, which are modular, sequenced and sub-divided into necessary duties and tasks and the apprenticeship program.

In the year one curriculum guide (2003:6) it was stated that “the modules for main courses (Architectural working drawing drafting, Structural drafting, and Machine drafting) are designed in such a way that the trainees will spend 30% of the allotted time in gaining theoretical knowledge and 70% in doing practical works, which will be given during the one year training program.”

According to the curriculum guide of Year one (2003) for each job areas, project work is recommended and apprenticeship training time has been allotted in order to help the trainees to improve their practical skills. Hence, trainees are required to spend most of their training time in practical works rather than on theoretical issues.

As stipulated in the curriculum guide (2003:6) in addition to the main courses there are supportive and common courses, which are more of theoretical knowledge and designed to help trainees follow the training or meet the exit profile, as far as the knowledge aspect of the training is concerned.

After completing the one-year training in drafting, graduates will get the title of “**Assistant drafting Technicians**” (**occupational title**) (see appendix 7) and are expected to create their own enterprises or to be employed in any drafting projects in the country (MOE,

2003:6). Those who meet the requirements might have the possibility to continue their training in the year two and then year three programs, which are designed to produce Technicians and advanced technicians respectively in the same fields.

The whole program training of 10+1 is made up of 1392 hours, which is supposed to be covered in 48 consecutive weeks (Ibid: 6). The weeks and hours allocation for each component is given as follows:

<u>Training components</u>	<u>Allotted weeks</u>	<u>Allotted Hrs.</u>
Main, supportive and common courses	33	480
Project works	3	115
Evaluation and Examination	4	155
Apprenticeship	<u>8</u>	<u>312</u>
Total	<u>48</u>	<u>1392</u>

The training is supposed to be offered five days a week and six hours a day. As far as apprenticeship is concerned, there are 39 working hours per week to be covered by trainees. The course delivery is not semester based but follow modular approach, there is no semester break, which means that the teaching learning process is continuing throughout the year. The new TVET training program contains so many innovations such as the introduction of apprenticeship program into the system, the modular approach etc.

2.2. Curriculum Implementation Evaluation

2.2.1 The Concept of Curriculum Implementation

The concept of curriculum implementation, though expressed in different words by different scholars, denotes the same meaning in the literature. Fullan and Pomfret (1977: 336) defined implementation as “the actual use of an innovation or what an innovation consists of in practice.” Similarly, Grotelueschen (1980: 86) explained curriculum implementation as “a process of putting the goals and designing to work.” According to Grotelueschen (1980) curriculum implementation is “a process by which a program is conducted using a variety of teaching – learning - administrative procedures, aimed at fulfilling the designer expectation of a target audience.”

As per the above definitions, implementation in short is, the execution stage of a planned curriculum. There is a clear demarcation between the developmental stage and implementation stage of a curriculum according to Yoloye (1978: 2-3).

Ornstein and Hunkins (1998:291) view implementation as a separate component in the curriculum action cycle. According to them “curriculum implementation is the next extensive step once a curriculum has been developed and piloted.” It involves diverse action by many parties, including the interaction between those who designed the curriculum and those who are to deliver it.

Implementation is not as easy task according to some writers. Lewy (1979: 76) argued that implementation of curriculum is a much complex process than its development. While the development of a curriculum is usually carried out at a single developed centre by a

relatively small team, the implementation may require contracting with many scholars, teachers and students. Stressing on this point, Pratt (1980: 425) expressed his view as “ the voyage from first identification of study need to eventual learner achievement is often stormy, but more good curriculum sink without trace on the shoals of implementation than at any other point.

2.2.2. The Nature of Curriculum Implementation

Curriculum implementation is one of the major components of curriculum development – the process of which continues even after the plans are tried out. Different scholars such as Fullan (1991) and Dalton (1988) define curriculum implementation and show this process. According to Fullan, implementation is the actual use of an innovation in practice. Similarly, Dalton (1988) defined implementation as “the actual use of curriculum/syllabus and what it consists of in practice.” Marsh (1992), Evans (1971), Pratt (1980), and Berman and McLaughlin (1976) shared the above definitions. All the above writers imply that the process of implementation gives to curriculum life.

According to Fullan (1991) and Hall and Locks (1975) emphasis given to curriculum implementation had been minimal until 1970s despite its complex nature. The main focus of program developers were more on writing plans which teachers are expected to implement. As Ornstein and Hunkins (1998:291) stated, “one reasons that a new curriculum may miscarry is that implementation has not been considered critical in curriculum development.” The assumption was good and interesting plans would produce a similar kind of outcomes in the hands of teachers. Nonetheless, as Ornstein and Hunkins (1998) puts it, when educators realize that many new programs “do nothing more than dust

on shelves” educators start to be concerned with what happens next to the best-written educational plans.

Many scholars underscored the cruciality and complexity of implementation. Dervegt and Knip (1990:191) noted that, “ implementation is a complex, concrete, and fragmented ‘nut – bolts’ affair involving a series of discrete activities through out the school.

From the remarks given by the above writers, we can easily see that implementation, as compared to other curriculum aspects, is a complex process as it confronts real classroom situations. It is concrete, as noted by Dervegt and Knip (1990) because it involves teachers, students, administrators, and other concerned bodies in direct contact with the innovative concepts. It is related to ‘bolt’ and ‘nut’ because it demands “not to get the innovation in place but also to get the innovation components in tune.”

On the other hand curriculum implementation is a complex process, thus, successful implementation cannot be achieved easily. Successful implementation involves a great deal of materials and manpower cost (Hord, 1995). Leslie Bishop as cited in Ornstein and Hunkins (1998) stated that implementation requires restructuring and replacement. He further stated that it requires adjusting personnel habits, ways of behaving, program emphasis, learning spaces and existing curriculum and scholars. It means getting educators to shift from the current program to the new program, a modification to be met with great resistance. As such, it seems that with a change in curriculum, the framework necessary to put into practice need also to be altered. Hence, it would be of great help to have a look at what

these procedures, structures and adjustment included so that to clearly visualize the process of implementation.

In short, implementing a curriculum is not an easy task and it requires so many things to be adjusted in the school where the curriculum is going to be implemented. Thus, it is crucial to discuss the factor that hindered the effective implementation of curriculum in order to eliminate them before causing serious problem on the whole system.

2.2.3. **Factors Affecting Curriculum Implementation**

There are various factors that affect the smooth and effective implementation of curriculum. Some of the factors such as the availability of curriculum materials, contents knowledge of teachers and the feasibility of the curriculum are easily visible and are also manageable, but whereas others such as budget size, socio-political conditions, and cultural factors takes long period to manipulate them (Posner, 1992). Four broad categories of factors that affect curriculum implementation have been identified by Fullan and Pomfret (1977) after reviewing 16 studies on measuring implementation. These are (a) Human factors, (b) Implementation strategies, (c) characteristics of the innovation, and (d) characteristics of macro socio – political units.

Those factors that are pertinent and within the scope of this study are presented in this review, namely, Human factors, implementation strategies, and characteristics of innovation and the last factor which is macro socio political units is not discussed here since its is beyond the scope of this study.

2.2.3.1 Human Factor

A curriculum might be useless unless people change it into operational curriculum in the classroom. Curriculum becomes reality when teachers implement it with real students in real classroom (Dalton, 1988:106). In a similar view, Posner (1992:191) pointed out that “not only do the characteristics of the people ... remain relatively stable, but also, more than any other frame factor they directly affect curriculum change.” The view of these scholars indicated the extent to which human factors affect curriculum implementation. The most related human factors are teachers, students, and administrators according to these scholars.

As far as teachers are concerned as one of the human factor that affect curriculum implementation, “No one is in doubt that they are the chief agent in the process of curriculum reforms (the international Bureau of Education, 1993). Teacher role in determining the success or failure of curriculum implementation is also given emphasis by Posner (1992). Pedagogical belief and willingness and knowledge about the curriculum are the two main issues that can be raised in relation to teachers.

In relation to pedagogical belief O, Neil (1995) stated that, teachers marginalize or avoid parts of the syllabus, which are not in agreement with their theoretical position. This means that, teachers use the parts of the syllabus, which are in congruent with the ways they teach, and avoid parts, which are not in harmony with their principles. This virtually leads to “drastic mutation” rather than straight forward adoption of the syllabus” (O, Neil, 1995).

Posner (1992) argued that in extreme situations teachers neglect a new curriculum, which is inconsistent and accept that is consistent with most of their beliefs. The implementation of a

curriculum at classroom level relies on teachers existing ideas about their day-to-day teaching and the extent to which they regard the new policy as desirable and practical. Hence, it is advisable to give teachers the chance to participate in the designing phase of the curriculum for the curriculum implementation to be successful.

Another important issue in relation to teacher is the knowledge they have on the part they teach. McCormick (1995) mentioned that teachers would teach best in areas, which they are knowledgeable, have effective materials and techniques. It is an obvious fact that teachers would not successfully implement a curriculum, if they don't have the knowledge and understanding about the curriculum. Hence, this entails a clear message for curriculum developers, that is, the need to consider the status of the teacher in curriculum planning. Regarding this Swans and Brown (1997:100) write the following:

Past records for curriculum initiatives show extra ordinary modest level of pedagogical implementation, in part because curriculum innovators have failed to start where teachers are.

Hence, it is unquestionable to consider teachers existing knowledge and understanding of subject matter before implementing a curriculum at large scale if the implementation process to be effective.

Students are the second human factors that curriculum implementation is influenced by. Posner (1992:192) stated that, “ the extent to which student possesses academic skills and background knowledge is the major determinants of success or failure of a curriculum.” Sometimes, there might be a pressing need to participate student in the design stage of a

curriculum so that the implementation shall be successful. In supporting this Fullan (1991) mentioned that student participation in the designing phase of a new curriculum determines the success or failure of implementation because implementation comprises change in the role relationship between teachers and students.

Another human factor that influence implementation of curriculum is school administrators. Of course, school administrators do not have direct influence on curriculum implementation as Fullan (1991) argued, but they need to have knowledge about the curriculum and the planning and management procedures involved. By understanding the crucial role of school administrator in implementation, McLaughlin (1976:172) notes, “ implementation is incredibly hard . . . and that successful implementation generally requires a combination of pressure (introduce new ideas) and support by school administrators.” Hord (1995) stated that, there is a clear association between the amount of help and technical assistance provided for teachers and the amount of implementation. He further noted that principal actions convey the message as to whether a planned change is to be taken seriously or not. This will, as stated by Berman and McLaughlin indirectly affect the willingness and dedication of teachers. As Dawit (2001) stated, this action includes many activities but the main ones are developing support organizational arrangement, training and ongoing information support, consultation and reinforcement, and monitoring and evaluation. Thus, the administrators need to have adequate knowledge about the curriculum and its planning process to have effectively implemented curriculum.

In conclusion, as the main constituents of the school system, the interaction within and among the three personnel factors highly determines the success of implementation.

2.2.3.2. **Implementation Strategies**

To accomplish successful implementation of new curriculum material and structural adjustment and behavioral changes of teachers are highly needed. Rather it requires developing and applying appropriate methods such as in-service training, resource support, and participating teachers in decision-making.

Before the new curriculum is put into effect it is necessary to arranging in-service training, which is one of the common strategy of implementation. As mentioned earlier, the teacher is chief agent of educational reforms, and there is a need to introduce a refresher course prior to the implementation of the reform (International Bureau of Education, 1993:2). The importance of in-service training arises from the realization that many implementation programs failed because of inadequate staff development opportunities. Hord (1995:97) claims, “many implementation efforts stall and fails because staff have not been trained in new skills. This leads to frustration and undercuts implementation.”

Patterson et al (1980) identified two main areas of staff development: “reeducation and re-socialization.” The former refers to “the development or refinement of competence necessary to implement the innovation.” It involves training in teaching ideas and behavior for a new curriculum. The latter refers to “the development or refinement of roles and role relationship required for implementation. This means according to them, changing interactive skills, attitudes, and habits related to the implementation of the curriculum. In short, it appears to be an agreed upon fact that intensive staff training is a useful strategy for implementation.

The provision of materials –resource support and time are another implementation strategy that need to be considered by curriculum planners and policy makers. Structural alteration, like grouping, textbooks preparation, classroom spacing etc. – need to be made in line with the planned curriculum. Dublin and Olshrain (1988:32) stated, “Policy making can be realistic and effective only if it takes into account the limitation of available resources for implementation.

Inadequate material supply due to economic problem is one of the bottlenecks in implementing educational reforms in developing countries according to Verspoor, (1988) agreed. There are research findings that support this fact. In China for instance, as Leung (1991) identifies, the mismatch between resources needed by the new curriculum and available school facilities is one of the barriers that affect the implementation of any new curriculum.

Another important variable related to implementation strategy is teachers’ participation in the designing level of the curriculum. Patterson et al (1980) indicated that it is not possible to assume that teachers will implement a new curriculum successfully if they are not understood it because two – way communication is necessary among those involved in implantation. Teachers’ participation in decision making is vital since it develop a sense of belongingness and commitment to implement a new curriculum (Hall, 1995).

There are research findings in supporting the above idea. Duet (1972) in Fullan and Pomfret (1977) discussed that teachers' degree of participation in curriculum development activities was significantly related to their reported degree of implementation.

2.2.3.3. **Characteristics of the innovation**

McCormick (1995:210) defines an innovation as "an idea, program or practice that is perceived as new by individual or group." In this regard, the new 10+1 drafting curriculum is considered as innovation in terms of methodology, approach, the way it designed etc.

There are five-degree of curriculum change according to McNeil (1990) as cited in Getachew (1999) namely, substitution (replacing one element with another such as textbook), alteration (minor modification of existing materials), perturbation (modification in class schedule), restructuring (change in teachers role) and change of school philosophy. The fifth degree of curriculum change (school philosophy) is not discussed here because it is not the scope of this study.

Variation in degree of implementation may occur among different curriculum, given the same kind of teacher, material facilities and students. Some require substitution of materials, some may easily fit into existing structure while others may require a great deal of restructuring and adjustment (McNeil, 1990). In this regard, Fullan and Pomfret (1977) identified two factors as determinants of curriculum implementation: complexity and explicitness.

Complexity of a curriculum according Fullan and Pomfret (1977) refers to the degree of difficulty in learning new behaviors and roles covered by the curriculum. Bennett et al. (1995) on the other hand argued that, "radical changes inevitably creates tension and anxiety, increase work load, undermines teacher confidence and self efficiency, and temporary deskills.

Explicitness refers to the extent of clarity and specificity in which expected behavioral and role change are stated in the curriculum according to Fullan and Pomfret (1977). Teachers would fail to extract the elements that constitute if curriculum is not clear and explicit which result in low degree of implementation. Hence, it is unquestionable that greater explicitness is required in terms of role and behavioral pattern of teachers to avoid vagueness of planned curricula, to guide teachers how new roles and behaviors could be established, and to alleviate the frustration of teachers.

If the curriculum lacks clarity and specificity, it seems it would be difficult for teachers to learn what is entailed by the curriculum. Hence, both complexity and explicitness must be considered while a new curriculum is designed.

White (1993) identified additional two determinants of curriculum implementation, namely, trailability and compatibility. The former refers to the simplicity to test or check the effectiveness of the curriculum. The idea behind trailability is that, if teachers can easily verify how effective the curriculum is, they will pursue in implementing the curriculum with great commitment.

On the other hand compatibility refers to the demands teaching methods pose the organization of the classroom. According to White (1993) new methods may require radical organization of classroom procedures, which if not well done, create a problem in implementation. This means that, in classroom procedures teachers were using in implementing the pre – existing curriculum are similar to what is suggest in the current curriculum, implementation may be facilitated. But if what was suggested in the previous curriculum is in contrast with what is suggested in current curriculum that would perhaps hinder implementation.

There are also other factors that influence the implementation process. These are as Evans (1993), Posner (1992), Goldenbery and Gallimore (1990) pointed out, content of the curriculum that is the quantity and difficulty of content, are crucial factors vis – a - vis the time necessary to teach the curriculum.

Hence, it may see that simple changes we likely to be implementing successfully and comprehensive changes are likely to fail. But scholars such as Clark et al (1984) in Fullan (1991) stated that simple changes are least to adopt and implement successfully because they are not considered to be useful seen in terms of the effort exerted. There are scholars who argued with the above statement. Scholars such as Clark et al in Fullan (1991) noted that “the greatest success is likely to occur when the size of the change is large enough to require noticeable sustained effort, but not so massive that typical users finds it necessary to adopt on coping strategy that seriously distort the change.”

2.2.4 **The importance of Curriculum implementation**

The reason why many curriculum initiatives have failed is simple and clear because curriculum workers/developers have not realized the importance of the process of implementation. Of course, the process of curriculum development is a challenging task, however, it is dangerous to think that the most important work has been completed once the design and the dissemination have been finalized. The success is highly determined - by the degree to which it is workable in practice its implementation.

Pratt (1980) argued that curriculum writers (commission writers) do not always give attention to implementation to the extent that they should. The implication of this is that the importance of curriculum implementation and its determinative influence on the success of an innovation should be realized not only by curriculum writers but also by all those having interest in curriculum. Curriculum implementation has different meaning by different educators. Lewy (1979: 22) assume implementation as “the open use of program throughout an entire schools system.”

Carle E. (1995) as cited in Eshetu (2001:9) defines curriculum implementation as “the application phase of core syllabi and school’s board curriculum, every subject curriculum and every lesson unit/lesson.”

For Schubert (1986:42) curriculum implementation is “a system of engineering that takes design specification through various channels to the teacher and curriculum.” Fullan and

Pomfret (1977) define implementation as “the actual use of innovation or what an innovation consists in practice.”

Although the meaning given to curriculum implementation by different educators seems to have differences, all have common agreement that implementation is a stage at which an innovation is changed into practice at a classroom level.

It seems that the definition given by Leithwood (1991:446) as cited in Eshetu 2001:10) sum up all the above definitions and it reads as follow:

Implementation is a process of behavioral change, in direction suggested by an innovation, occurring in stage overtime, as obstacles to such change are overcome.

This definition by Leithwood is the definition that the writer has adapted in the development of this study.

There is a need to study the process of implementation. Hence, Fullan and Pomfret (1977:336-339) identified the following as to why we need to study the process of implementation.

1. We don't know what has changed unless we attempt to conceptualize and measure it directly.
2. We need to understand some of the reasons why many educational change fail to be established.

3. If we don't study it, we ignore it, or else we confuse it with other aspect of the change process such as adoption (decision of implementation with implementation itself).
4. Unless we examine it separately, it may be difficult to interpret learning outcomes and to relate these to possible determinants

The reasons illustrated by Fullan and Pomfret imply that, to ensure the success of an innovation, its implementation should be studied because the success or failure of an innovation much depends on the result obtained implementation. Thus, the concept of curriculum implementation evaluation should be given due attention by curriculum evaluator before an attempt is made to evaluate the entire curriculum or particular program.

After the curriculum is designed and implemented the next step is to evaluate the implemented curriculum to know whether or not the anticipated objectives of the curriculum are achieved.

2.2.5 Curriculum Evaluation

There can be no doubt that a curriculum is planned and established has a great impact on its quality. However, the process used to define and determine that quality is of at least equal importance. The role of evaluation in curriculum development cannot be over emphasizes. When utilized properly, evaluation can help to ensure that curriculum is of a high quality and that deficiencies are identified before they cause major problem to arise (Finch and Crunkilton, 1979). Evaluation is an important following phase in the process of curriculum development and it should take place on a continuous basis.

Different authorities of the field define curriculum evaluation based on the purpose of evaluation, objectives, etc. Orstein and Hunkins (1998:320) stated that:

Evaluation is a process or cluster of processes that people perform in order to gather data that will enable hem to decide whether to accept, change, or eliminate something - the curriculum in general or an educational textbook in particular.

On the other hand Derebssa (1999) define curriculum evaluation as the question of knowing the deficiency of the curriculum guide or textbook and act accordingly.

Bruce Tuckman as cited in Orstein and Hunkins (1998:322) define curriculum evaluation as “the means for determine whether the program is meeting its goals, that is, whether the measures/outcomes for a given set of instructional inputs match the intended or pre-specified outcomes.”

Within the context of curriculum development, evaluation may be defined as the determination of the worth of a curriculum (or portion of that curriculum). According to Finch and Crunkilton (1979), curriculum evaluation includes gathering information for use in judging the work of the curriculum program, or curriculum materials.

The above definitions of curriculum evaluation are focusing on similar issues of curriculum evaluation. They view evaluation as a process of gathering information, analyze the

collected data and arrive at a conclusion whether the program requires revision, major changes, or total changes or discontinue the program.

In light of the purpose and the type of information collected, two broad areas of evaluation can be considered (Ornstein & Hunkins, 1998:326). They are, Formative evaluation
Summative evaluation

Formative evaluation encompasses those activities undertaken to improve an intended program. Evidence is sought so that decision can be made about how to receive a program while it is being developed, or to modify the program before it is implemented. During the development stages of a curriculum, the evaluation efforts provide with frequent, detailed, and specific information to the curriculum developers. Hence, formative evaluation is intended to improve an existing program (Ornstein &, Hunkins 1998:326).

Formative evaluation is well suited for guiding the criterion and fine-tuning of a curriculum. Bishop (1985) has also asserted that, formative evaluation takes place during the life of a program or object.

On the other hand summative evaluation encompasses those activities undertaken to get the total picture of the quality of the produced and implemented curriculum. For Orstien and Hunkins (1998:326) summative evaluation is usually conducted after the project has been completely developed and implemented school wide or countrywide. It focuses on the effectiveness of the total curriculum. Bishop (1985) has also indicated that, summative

evaluation takes place at the end of a program. The term summative refers to the “summed” effects of various components or unit in a particular curriculum.

McNeil (1984) stated that, summative evaluation has several purposes - one purpose is to select from several competing curriculum programs or projects those, which should continue, and those, which are ineffective.

Although summative evaluation is performed at the end of a project, it should not be perceived as happening only once, it can for example be conducted several times at the ends of particular unit plans.

In contrast to formative evaluation, which often uses informal methods and frequently focuses on processes, summative evaluation is likely to use more formal means of gathering data for analysis. Tests for measuring attainment of objectives will be more carefully designed. According to Polham (1971) in Derebssa (1999:205) the typical instruments used by the summative evaluation are paper and pencil tests. They are prepared to appraisal the degree to which the objectives of the course have been achieved.

In vocational and technical training an evaluation is done to improve the decisions made by the three types of sponsors (government, employers, and individuals) to improve the quality of the program (ILO, 1999:21-22). In this regards, program evaluation or curriculum evaluation serves as a corrective mechanism to alleviate a problem before it cause serious problem on the entire program.

Program evaluation should be done with some agreed upon purpose. Such purposes according to Proves in Abramson et al (1979:142) are the agreeing upon program standards, determining whether a discrepancy exists between some aspects of the program, and using discrepancy information to identify the weakness of the program.

Pre – training evaluation of the situation and post – training evaluation of the trainees' performance are the two types of evaluation that are identified in vocational training. For YekunoAmlak (2000:28) the pre –training evaluation deals with the survey of job market and skill requirements for a particular job while post – training evaluation is conducted at the end of the training which is somehow similar with summative evaluation

The problem in most vocational training centre is absence of program evaluation. Hence, training centres need to appreciate the importance of program evaluation so that they could improve the quality of the training. Hence TVET centres are required to evaluate how they implement their program. In order to do so we need to know the importance of curriculum/program evaluation, which is the focus of the following paragraphs.

2.2.6. **Curriculum implementation evaluation**

According to Carle E. (1994:13) implementation evaluation is “ evaluation of the extent to which curriculum anticipation become reality”. That means implementation evaluation is a comparison of curriculum events such as content, instructional actions, learning experiences with curriculum plans (anticipated curriculum events). Some scholars such as Seiglova

(1974) in Eshetu (2001:13) and Stake (1967) refer to this form of evaluation as “discrepancy evaluation” and “finding the congruence between intents and observation” respectively.

Because implementation evaluation comprises only the comparison of curriculum realities with curriculum anticipation as a criterion, it leaves an unevaluated equality of anticipation (rationale, aims, syllabus anticipated, instructional activities and learning experiences).

Leithwood (1991) as cited in Eshetu (2001) agreed with the above statement and gave the purpose of implementation evaluation as follow: Evaluation:

- Assist in making accountability and management decision;
- Serving research and development function.

When implementation evaluation is designed to serve as to provide information about the practice implies by the innovation by identifying those conditions, under which implementation is likely to success, including problem likely to be encountered under conditions available for their resolution, determining the feasibility of innovation implementation including capabilities required of the implementation it assists the management decisions.

A decisions maker might benefit from the information relevant to several, purpose at the given time because accountability, management, and research are not independent functions. After analyzing a variety of curriculum implementation evaluation, Fullan and Pomfret (1977) indicated that such evaluation are aimed at the following aspects.

- The learning content and curriculum materials;
- Curriculum resources and organizational materials;
- The knowledge and understandings of curriculum on the part of the teacher;
- The behavior of the teacher;
- The value judgment handed down by teachers is as regard to curriculum.

Generally, in chapter two, attempt has been made to show philosophies, theories and principles as far as TVET training program is concerned. In addition, it has been attempted to discuss the concept of curriculum evaluation, curriculum implementation, and curriculum implementation evaluation.

The 10+1 drafting curriculum has been implemented twice and it is high time to evaluate its implementation in order to arrive at a conclusion whether it has been implemented as anticipated or not.

CHAPTER THREE

DESIGN OF THE STUDY

As mentioned earlier, this study is aimed at evaluating the implementation of 10+1 drafting curriculum/training program of Addis Ababa TVET centres. To fulfill this purpose, the approach followed is multiple approach method. This method was selected since it is appropriate to collect several kinds of data related with the problem under investigation.

In this chapter an attempt was made to provide adequate information about research design, subjects and sampling methods, methods of data analysis, and the pilot study. In addition the instruments that were selected and tryout procedures were discussed thoroughly.

3.1 Subjects of the study

The subjects of the study include teachers, students, principals, deputy principals, and department heads.

The researcher selected to study the implementation process of 10+1 drafting curriculum because the researcher knows the field (drafting) since drafting was the major area of study at undergraduate level. As drafting is the language of industry (Luzzader, 1981), it is being offered in all technical fields of study as supportive course and major course. The other reason for selecting 10+1 drafting curriculum is the fact that this new curriculum has been operational for two years and thus teachers and principals have enough familiarity with these new roles and responsibilities.

3.2 Model and framework of the study

Provus's discrepancy evaluation model was employed with some adaptation since the model is suggested as one of the best to evaluate the training programs. Provus (1971) indicated that there are four main stages: Design, installation, process and product. Program evaluation according to Provus; is the process of

- Determining program standards;
- Determining whether a discrepancy exists between some aspect of program performance and the standard; and
- Using discrepancy information either to change or modify programs.

From the four stages, the study is focused on installation because during installation, educators are expected to examine the discrepancy between program design and actual classroom practice as well.

Provus suggests the need to use classroom observation for such a research. In this research, however, the following data collection methods are selected in order to gather ample information:

- Questionnaire
- Interview
- Observation

3.3 Sampling Techniques

The entire ten TVET centres found in the capital were included in the study. Moreover, effort has been made to include all principals, deputy principals, department heads and teachers.

Regarding students' sample, purposive sampling was adopted to select students from both 10+1 and 10+2 training programs. Hence, 155 students from 10+1 and 50 students from 10+2 training program have been selected by the researcher and department heads. Effort has been made to include a fair number of female students in the study to maintain gender balance.

The use of this kind of sampling is supported by Robson (1993). According to Robson, the principle of selection in purposive sampling is the researcher's judgment or interest.

3.4 Data gathering instruments

For the purpose of the proposed study a total of three major instruments have been prepared.

These are:

- Questionnaire for
 - Teachers
 - Students
 - Principals and deputy principals
- Interviewing
- Observation

3.4.1 Questionnaire

Three kinds of questionnaires were prepared and filled by teachers, department heads, students and school administrators (Principals and Deputy principals). The purpose of the questionnaires filled by teachers', department heads, and principals were to find information regarding the program. This included general information, the training policy, curriculum

design, assessment of the teaching learning process, requirements of staff and factors affecting the implementation of the curriculum.

The questionnaires filled by students were used to examine students' perceptions of the implementation of the curriculum.

3.4.2 Interview

In an attempt to collect additional data from teachers, unstructured interview guide was developed (See Appendix 6) and interview conducted.

The interview guide focused mainly on the major constraints faced while implementing the training program and the support service provided for the teachers in facilitating implementation of 10+1 drafting training program.

3.4.3 Observation

Drafting rooms of the entire TVET 10+1 of Addis Ababa were visited. Availability and use of curriculum documents and instructional aids and drawing instruments and equipments were checked with the help of check-list (see appendix 5) examined and discussed.

Before the actual data gathering process began, preliminary sessions have been arranged with teachers, principals, deputy principals, and head of department to discuss the issue of objective of the study expected activities from each of the subject of the study during data collection process and clarification was given on each part of the questionnaire in collecting data.

3.5 Pilot Study

Before the actual study was conducted a pilot study was done to test the suitability and clarity of the data collection tools. Four government technical and vocational training centres, Nefas silk, Addis Ababa technical school, Wingate Construction School and Entoto technical and vocational school were selected for the field trial.

All in all a total of 15 students and four instructors participated in the tryout. In addition, two principals participated in the tryout. Students, principals and instructors selected for the pilot study were not involved in the actual data collection process.

The purpose of testing the questionnaires on students was to examine the clarity of items and directions. Accordingly, the questionnaires were presented to students in the presence of the researcher and head of departments from the respective training centres. In the process when students manifested confusions, some modifications were made, on the questionnaires.

Teachers and principals' questionnaires were administered to see the clarity of items and instruction as well. All principals and teachers responded well and only slight modifications were made on the instruction and items of teachers' questionnaires.

In addition one professor from Addis Ababa University and two subject area experts from Ministry of Education and Addis Ababa region Education bureau read all the three questionnaires.

After the completion of the task of the pilot study, the questionnaires were retyped, duplicated and administered on all the respondents.

3.6 Data analysis Techniques

The raw data that was collected using interviewing, questionnaires, and observation had been analyzed. The findings obtained through these instruments were arranged in tables in line with the basic research questions. Based on the findings conclusions and recommendations were made.

3.6.1 Percentages

Percentages were used to analyze various characteristics of the sample population such as age, sex, educational qualification, work experiences of teachers, principals. Moreover, this statistical tool was used to analyze the responses of teachers, principals, and students.

CHAPTER FOUR

PRESENTATION AND ANALYSIS,

This part of the study deals with presenting and analyzing the data collected through questionnaires, interview, and observation. A total of 360 questionnaires were distributed to three categories containing both closed and open-ended questions. All questionnaires (205) were collected from students. Out of the 20 questionnaires distributed to principals 19 (95%) were collected. On the other hand, a total of 33 (94.29%) out of 35 questionnaires that were distributed to teachers were collected. Therefore, the analysis was made on the data obtained from 357 (99.17%) respondents. One principal and two instructors did not return the questionnaires for unknown reasons.

Table 1 - Description of respondents by sex and age

No.	Items	Principals & Deputy principals		Teachers		Students	
		No.	%	No.	%	No.	%
1	Sex						
	a) Male	18	94.74	24	72.73	131	63.90
	b) Female	1	5.26	9	27.27	74	36.10
	Total	19	100	33	100	205	100
2	Age						
	a) 15-20	-	-	-		202	98.54
	b) 21-25	-	-	7	21.21	3	1.46
	c) 26-30	1	5.26	10	30.30	-	-
	d) 31-25	2	10.53	3	9.10	-	-
	e) 36-40	-	-	2	6.10	-	-
	f) Above 40	16	84.21	11	33.33	-	-
	Total	19	100	33	100	205	100

Two questions were presented in Table 1 to show about the general distribution of the respondents. As shown in item 1, except one female deputy principal all 18 (94.74) were males. With regard to students' gender distribution, 131 (63.90%) were males while 74(36.10) were females. Twenty-four (72.73) of the teachers' respondents were males teachers while, 9 (27.27%) were female teachers. Regarding age group, 7(21.21%) of the teachers belong to the age group 21 to 25 years; 10 (30.30%) teachers were from 26 to 30 years old 3 (9.10%) teachers were from 31 to 35 age group, 2 (6.10%) of the teachers belonged to age group 36 to 40 years and the remaining 11 (33.33%) were above 40 years old. As far as principal's age group is concerned, 1(5.26%) is between 26 and 30 years, 2(10.53%) of the principals are from 36 to 40 years, and the rest, 16 (84.21%) are above 40 years old. Concerning students in the sample TVET training centres, the majority i.e. 202 (98.54%) belonged to the age group 15 to 20 years old. The rest 3 (1.46%) belong to the age group of 21 to 25 years old.

Table 2 - Respondents description by qualification, service year, and Field of study.

No.	Items	Respondents			
		Principals & Deputy principals		Teachers	
		No	%	No.	%
1	Qualification - Education				
	a) 12+2	-	-	22	66.67
	b) 12+3	-	-	6	18.18
	c) BSC. /BA	19	100	5	15.15
	Total	19	100	33	100
2	Service Year				
	a) 0-5	-	-	17	51.52
	b) 6-10	-	-	2	6.06
	c) 11-20	-	-	4	12.12
	d) Above 20	-	-	10	30.30
	Total	-	-	33	100
3	Fields of Study				
	a) Technical & Vocational	5	26.32	33	100
	b) Language	5	26.32	-	-
	c) Educational Administration	5	26.32	-	-
	d) Pedagogical Science	2	10.52	-	-
	e) Management	1	5.26	-	-
	f) PSIR	1	5.26	-	-
	Total	19	100	33	100

Principals and Teachers were asked in Table 2 to indicate the qualification they possess, the service years they have and their fields of study. The findings regarding the qualification principals and teachers are the follows: 19 (100%) of the principals are B.Sc./BA holders 22 (66.67%) teachers have college diploma (12+2), 6(18.18%) teachers

are advanced diploma holders (12+3), and the remaining 5 (15.2165%) are first-degree holders.

Teaching experiences is one of the items presented to teachers. In this regard, 17 (51.52%) teachers have served from 0 to 5 years, 2 (6.06%) have served 6 to 10 years, 4 (12.12%) of the teachers have served 11 to 20 years and 10 (30.30%) have served above 20 years.

As shown in item 3 of Table 2, all teachers were graduates of technical and vocational education at various levels. On the other hand, 12 (63.16%) principals had their training in Language, educational administration, and pedagogical sciences. Two (10.52%) were trained in management and Political Science and International Relations (PSIR), and 5 (26.32%) had training in technical and vocational field of study. Hence, the findings shows that majority of the Principals were graduates from non - technical field of study.

Generally, teachers tend to have relatively less years of work experiences as the majority of the teachers i.e. 17(51.52%) have teaching experience below 5 years. With regard to teachers' qualification, only 5 (15.15%) of them fulfill the educational requirements as per ministry of education's standard (MOE, 2004: 43), which state teachers ought to have a minimum of first degree to teach in the middle level technical and vocational training centre. The suggestion is given based on UNESCO's (1976:21) recommendation for the teaching staff of TVET program, which is stated as follows:

The teaching staff for the education of technicians should possess either a degree or a high technicians qualification in an appropriate field and should have industrial or comparable experiences in their particular discipline.

Table 3 - Respondents opinion about vocational education

No.	Item	Respondents			
		Principals		Teachers	
		No	%	No	%
1	Do you have interest in vocational education				
	a) Yes	17	89.47	29	87.88
	b) No	1	5.63	4	12.12
	c) No response	1	5.63	-	-
	Total	19	100	33	

As shown in Table 3, a question was presented to both principals and teachers to indicate whether they have interest in vocational education or not. Accordingly, 17 (89.47%) of the principals and 29 (87.88%) of the teachers' respondents indicated that they had interest in vocational and technical training. On the contrary, 1 (5.63%) of the principal and 4 (12.12%) of teacher respondents indicated that they do not have interest in technical and vocational training. On the other hand, 1 (5.63%) of the principal did not respond to the question.

Table 4 - Reasons promoting teachers and principals interest in Vocational Education

No.	Reasons	Respondents	Rank		
			1	2	3
4.1	The training promised employment opportunity	Teachers	17(80.45)	3(14.85)	
		Principals	10(83.33)	1(8.33)	1(8.33)
4.2	The training gives social prestige	Teachers	4(21.04)	8(42.1)	7(36.82)
		Principals	2(22.22)	5(55.56)	2(22.21)
4.3	Access to further education	Teachers	12(52.17)	7(30.43)	4(17.37)
		Principals	10(83.34)	2(16.67)	
4.4	Influenced by parents	Teachers	2(12.5)	4(25)	11(68.75)
		Principals	-	2(25)	6(75)
4.5	Influences by Friends (Non-Teacher)	Teachers	3(14.28)	10(47.62)	8(38.14)
		Principals		4(50)	4(50)
4.6	Teacher's Influence	Teachers	2(9.52)	6(30.57)	6(57.89)
		Principals		2(20)	8(80)
4.7	No response	Teachers	9(27.72)		
		Principals	6(18.81)		

N.B. Figures in Parenthesis show the percentage

Principal and teachers were asked to indicate the reasons promoting their interest to join technical and vocational education. The question were presented in such a way that value 1 is for the highest reason that promote their interest and 3 is for the reasons that is low in promoting their interest. The data in table 4 indicates that the ranking of the reasons that promoted teachers' and principals' interest. Consequently, employment opportunity and access to further education were found to be the two most important reasons that promoted

participate in any form of training. The remaining 2 (10.52%) of the principals' respondents did not respond to the question. Teachers, as well, were asked to indicate their response with regard to the same question. To this end, 27 (81.82%) teacher respondents responded 'yes'. The remaining 6 (18.18%) of the respondents did not participate in any form of training. The finding reveals that the majority of the teachers have participated in workshops, in-service training etc. while the majority of the principals did not participate in any form of workshop or in service training related with 10+1 drafting curriculum.

In the same Table in item 2, teachers and principals were asked to indicate how many times they participated. Among the 5 principals who had participated, 2 (40%) of them participated only once, 1 (20%) participated three times and 2 (40%) participated more than three times. As far as teachers are concerned, 10 (37.04%) participated only one time, 8 (29.63%) participated two times, 4 (14.81%) participated three times, and the remaining 5 (18.82%) teacher respondents participated more than three times.

Teachers and principals were asked to respond to the usefulness of the workshop (see item 3). Accordingly, as shown on item 3 of Table 5, 4 (80%) principal respondents and 27 (100%) teacher respondents indicated that the training workshop was very much useful for their job. One (20%) principal respondent however, did not give his preference.

Generally, from the finding it is possible to say that the majority of the teachers had participated in workshops related to the 10+1 drafting training program while the majority of the principals did not have the chance to participate in workshop.

Table 6 - Teachers participation in the developmental process of 10+1 Drafting curriculum.

No	Items	No	%
1	Have you taken part in the new 10+1 drafting curriculum development?		
	a) Yes	17	51.52
	b) No	15	45.45
	c) No Response	1	3.03
	Total	33	100%
2	In what way did you take part?		
	a) In setting objectives and content while it was being drafted	2	11.76
	b) In commenting on the curriculum after it was put into practice	13	76.48
	c) Any other, specify	2	11.76
	Total	17	100
3	To what extent your suggestions were incorporated?		
	a) Completely	1	5.87
	b) Mostly	3	17.68
	c) To a certain extent	12	70.58
	d) Not at all	1	5.87
	Total	17	100
4	If your answer question 1 is 'no' give your reason		
	a) Because you were not assigned	10	66.67
	b) Because you do not have experiences	2	13.33
	c) No Response	3	20
	Total	15	100

In an attempt to assess the extent of teachers' participation in 10+1 drafting curriculum development processes series of questions were presented in Table 6. This was specifically aimed at answering one of the main research questions (pp. 9). Tyler (1949) stated that suggestion of subject specialist could be used as a source for curriculum development. As can

In relation to item 2 of Table 7, 17 (89.47%) of principal respondents and 26 (78.79%) of teachers respondents had given the rating very useful and useful when asked about the usefulness of the teachers'/curriculum guide. This finding reveals that the usefulness of teachers'/curriculum guide is unquestionable since it is the only material available to teach in the training program.

A question was also presented to principals and teachers to indicate the availability of textbooks for the modules. Nineteen (100%) of the principal and 33 (100%) of the teacher respondents indicated that there were no textbooks available for any of the modules in their respective TVET centres. As the finding indicates this is one of the main problems of both teachers and students in the teaching-learning process.

As the findings reveal, there are no shortage of teachers'/curriculum guide. But the unavailability of textbooks in any of the training centres for any of the modules remains the major drawbacks of the training program.

module while 8 (24.24%) were teaching a single module and 2(6.06%) were not assigned to teach when the study was conducted.

With regard to teachers weekly teaching load, 1(3.03%) teaches between 5 to 10 period per week, 17 (51.52%) teachers teach between 11 to 20, and 15 (45.45%) of them teach above 20 periods per week. The teaching load teachers have is below 30 periods per week; below what is suggested to be the standard in the country. The ministry of education issued that a teacher could have up to 30 period per week unless he/she is engaged in extra – curricula activities or assigned to work in administration.

The findings indicate although teachers tends to have less teaching load (item 3 Table 8), it is found to be very difficult to teach four courses at the same time as this could negatively affect the ability of a teacher to thoroughly prepare for a subject. In addition, it is not difficult to judge that an instructor cannot be an expert on an entire module and anticipate a successful teaching – learning process. The difficulty of teaching more than three different modules has been reported by a number of instructors during the interview sessions. As discussed earlier (table 2) the majority of the teachers in 10+1 training programs lack the minimum educational qualification required and has less teaching experience. Hence, the fact that the teachers are less experienced, lack the required qualification coupled with teaching multiple number of subject would definitely affect the teaching - learning process negatively and effective implementation process would be below MOE's expectation.

Table 12 – Teachers and Principals responses regarding students’ skill and Knowledge.

No	Items	Respondents			
		Principals		Teachers	
		No	%	No	%
1	Do you believe that skill and knowledge that students have learned in this training centre enable them to work in the job market?				
	a) Yes	19	100	24	72.72
	b) No	-	-	6	18.18
	c) No response	-	-	3	9.10
	Total	19	100	33	100
2	How do you know that the knowledge & skill is enabling them to work in the job market?				
	a) Asking graduate who are working in different firms	10	52.63	10	41.67
	b) Through feedback from employers	5	26.32	10	41.67
	c) Through other means	4	21.05	4	16.66
	Total	19	100	24	100

As shown in Table 12, Principals and teachers were presented with a question in association with students’ knowledge and skills to work in the actual work situation. Accordingly, 19 (100%) of the principal and 24 (72.72%) of teacher respondents indicated that the knowledge and skills students acquire from the training centres enable them to work in the actual work situation. On the other hand, 6 (18.18%) of teacher respondents indicated that the knowledge and skills student acquire from the training centre were not sufficient to work in the actual work situation. There are 3 (9.10%) teacher respondents who did not give their responses.

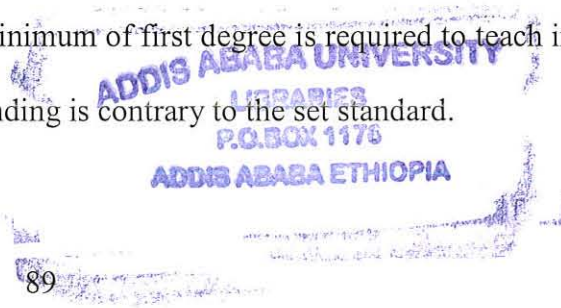
When asked how would they know the knowledge and skill is enabling students to make the fit in the workplace 10 (52.63%) principal and 10 (41.67%) teacher said, they know by asking graduates who are working in different firms.

Table 13 - Teachers’ response regarding their capability to teach in 10+1 Training programs.

No	Item	No	%
1	Do you believe that your present qualification is enabling you to teach in 10+1 drafting training program?		
	a) Yes	31	93.94
	b) No	1	3.03
	c) No response	1	3.03
	Total	33	100

A question was presented to teachers to respond whether or not the qualification they have would enable them to teach in the 10+1-training program (Table 13). This was asked in an attempt to find a solution to the main research question with regard to the strengths and weaknesses the training centres have. Thirty one (93.94%) of the teachers confirmed that the qualification they have is enabling them to teach in 10+1 drafting training program. On the contrary, 1(3.03%) of the teachers indicated that the qualification he/she has is not sufficient enough to teach on the program while 1 (3.03%) did not responded to the question.

The response of the majority of the teachers does not match with the requirement set by Ministry of education which says “a minimum of first degree is required to teach in 10+1 and 10+2 training program.” It seem the finding is contrary to the set standard.



to the question while 13 (39.39%) of the respondents indicated 'yes'. Hence, drawing instruments and materials are regarded negatively by many of the respondents, which implies that the attainment of the instructional objective of 10+1 drafting program is far from being achieved. In relation to the 2nd question 10 (50%) of the respondents responded in such a way that, drawing instruments and materials, are not available for each of the students while 8 (40%) of the teacher respondents indicated that drawing instruments and materials are not adequately available for each of the students and are not new.

Table 15- Teachers response regarding what the new 10+1 drawing Curriculum lacks.

No.	Items	No	%
1	Did you come across something new that you would suggest to be taught in the current 10+1-drafting program?		
	a) Yes	12	36.36
	b) No	18	54.55
	c) No response	3	9.09
	Total	33	100
2	If your response for the above question is 'no', do you mean that:		
	a) Every skill and knowledge that is needed in work area is being taught in the training centre.	6	33.33
	b) The knowledge and skills that the student acquire from the training program enable them to adjust to whatever new skills and knowledge needed in the work area,	10	55.56
	c) Other reasons	2	11.11
	Total	18	100

Teachers were also asked (Table 15) whether they have come across something new that they would suggest to be taught in the current 10+1 drafting curriculum/program. Eighteen (54.55%) of the respondents indicated that there are no new topics to be included in the

and 121 (59.02%) of student respondents declared that the period allotted for practical session was sufficient and moderately sufficient. On the contrary, 6 (18.18%) of the teacher and 80 (39.22%) of the students indicated that the time devoted for practical activity was not sufficient. The finding suggests that there was no serious problem in the period allocation of the practical session. Hence, it can be said that the training time for practical activity is adequate.

Table 17 –Students’ Responses about the expectation of the training

No	Items	No.	%
1	Is the training according to your expectation?		
	a) Yes	107	52.20
	b) No	97	47.32
	No response	1	0.48
	Total	205	100
2	If no, Why		
	a) It is more theory than practical	12	12.37
	b) Lack of facility	39	40.21
	c) Lack of interest for practical training	11	11.34
	d) Obsolete curriculum	12	12.37
	e) Other	21	21.65
	f) No response	2	2.06
	Total	97	100

Series of questions were forwarded to students (Table 17) to respond on their expectation about the training program. Hence, as can be seen from item 1, the question was positively answered by 107 (52.20%) of students’ respondents that the training is according to their expectations. On the contrary, 97 (47.32%) of the respondents indicated that the training was not as they expected it and 1 (0.48%) did not respond to the question.

Among the respondents, who replied negatively, some indicated that the training was not according to their expectations. The reasons they gave for this response was as follows: Thirty nine (40.21%) students said there was lack of facilities, 24 (24.74%) students said the training is more theory and obsolete curriculum and 11 (11.34%) students said they lacked interest in the practical training. Twenty one (21.65%) students gave various other reasons and 2 (2.06%) students did not give their reasons at all.

Thus, lack of facility, low interest in practical training, and more theoretical and practical classes were the major reasons that were identified by the students as the major reasons that the training was not according to their expectations. In spite of these responses, the study shows for the majority of students the training program was according to their expectation.

Table 18 - Teachers' response about the successfulness of 10+1 Drafting Curriculum

No	Item	No	%
1	On the whole, do you say that "10+1 drafting training program" has been:		
	a) Very successful	1	3.03
	b) Successful	17	51.52
	c) Not sure	7	21.21
	d) Unsuccessful	4	12.12
	e) Very Unsuccessful	1	3.03
	f) No response	3	9.09
	Total	33	100

In order to know what teachers say about the successfulness of the 10+1 drafting training program, teachers were presented with a question as shown in Table 18. Most of the

respondents i.e. 18 (54.55%) indicated that the training program was successful and very successful. On the other hand, 5 (15.15%) of the respondents gave unsuccessful and very unsuccessful and 7 (21.21%) teacher respondents were not sure about the success of the training program. The remaining 3 (9.09%) did not respond to the question at all.

Table 19 – Teachers’ response of the successfulness of the Apprenticeship.

No	Item	No	%
1	In your opinion, the performance of the students during apprenticeship is:		
	a) Excellent	5	15.15
	b) More than satisfactory	16	48.49
	c) Barely satisfactory	4	12.12
	d) Not satisfactory	6	18.18
	e) No response	2	6.06
	Total	33	100

A question was presented to teacher respondents (Table 19) to find out about the performance of the apprenticeship. The majority of the teachers, 21 (63.63%) positively replied that students’ performance during the apprenticeship was excellent and more than satisfactory. On the other hand, 10 (30.30%) of the respondents indicated that the apprenticeship program was barely satisfactory and not satisfactory while 2 (6.06%) did not responded to the question. The finding shows that students had a chance to share experiences and thereby enrich their skill during the apprenticeship.

better condition as far as drawing room facilities are concerned when compared with the other TVET centres of Addis Ababa.

Table 21 - The values given by students on the common subject

No.	Subject	Values					
		Very valuable		Valuable		Not Valuable	
		No	%	No	%	No	%
a	English	166	83.42	31	15.58	2	1.00
b	Civics	57	28.64	80	40.20	62	31.16
c	Mathematic	147	73.87	41	20.60	11	5.53
d	Introduction to Information Technology & basic application	135	79.41	30	17.65	5	2.94
e	Entrepreneurship	108	56.54	61	31.94	22	11.52

As can be seen from Table 21, a question was presented to students to indicate the value of common subjects. 166 (83.42%), 147 (73.87%), and 135 (79.41%) of student respondents gave the rating very valuable to English, Mathematics, and introduction to information technology and basic application respectively. The vast majority, 197 (99%) of the respondents gave the highest value to English language, which is the medium of instruction for the entire technical and vocational training centres in the region. In general, students gave more values to English language, Mathematics, Entrepreneurship, introduction to Information technology and basic application, and Civics in ascending orders from the highest to the lowest.

Table 23 – Teachers response about Factors that affect the implementation of 10+1 drafting curriculum.

No.	Factors	Rating							
		Severely		Moderately Severe		Slightly Severe		Not at all	
43		No	%	No	%	No	%	No	%
1	Supply of materials such as textbooks, teachers' guide. Syllabus etc.	18	62.07	6	20.69	5	17.24	-	-
2	Unclear syllabus objectives and teaching activities	8	28.57	4	14.29	9	32.14	7	25
3	Students poor background knowledge and language skill	13	44.83	6	20.69	10	34.48	-	-
4	Period to cover the curriculum and contents.	12	42.86	6	21.43	4	14.28	6	21.43
5	Absence of inadequacy of in – service training on how to teach by modular approach.	5	18.52	6	22.22	12	44.45	4	14.81
6	Difficulty of activities incorporated in the textbook/teachers' guide	15	55.56	5	18.52	2	7.40	5	18.82
7	Large number of students in class.	15	60	3	12	7	28	-	-
8	Teaching load.	16	55.17	5	17.24	8	27.59	-	-
9	Supply of materials such as stools, drawing table, drawing instruments, white board etc.	17	54.84	4	12.90	8	25.92	2	6.45
10	Support from school principals and other administrative staff.	13	44.83	7	24.14	5	17.24	4	13.79

In an attempt to know factors that affect the implementation of 10+1 drafting training program series of questions were presented to students. As shown in Table 23 except the items, unclear syllabus objective and teaching activities (item 2) and absence of inadequacy of in-service training (item 5) on how to teach by modular approach, the remaining eight factors were rated

having as a moderately and severe effect on the implementation of 10+1 drafting curriculum by most of the teachers.

As reported by 18 (62.07%) teacher respondents, poor supply of materials such as textbooks, teachers' guide, syllabus etc., indicated to be severe factors that affect the implementation of 10+1 drafting training program. Seventeen (54.84%) of the respondents responded that poor supply of materials such as stools, drawing tables, drawing instruments, white board etc, were also regarded as severe factors that affect the implementation of the training program. On the other hand, 15 (60%) teacher respondents indicated that large class size (more than 40 students in an ordinary class room) is another factor that severely affects the quality of the implementation of the program and 13 (44.83%) indicated that students' poor background and language skill were major factors that affect the implementation process. In addition, 12 (42.86%) respondents said that inadequacy of the period to cover the curriculum and content was identified as a serious factor that affects the implementation of 10+1 drafting training curriculum which is not consistent with the responses given by teachers and students (table 16 pp 92).

In general, it appears that, though the degree varies, all of the factors tend to affect the implementation of the training program. The eight factors identified earlier as having severe influences by many teachers can be taken as the significant ones.

Table 24 – Teachers Ranking of Statement of the objectives

No.	Items	Rating				
		1	2	3	4	5
1	Clear and understandable by the teachers and students	13(39.39)	20(60.61)	-	-	-
2	Found to be the same with what you thought to be	6(18.75)	22(68.75)	4(12.5)	-	-
3	Constructed in such a way that they would reflect major aspect of the occupation	8(29.63)	13(48.15)	5(18.52)	1(3.70)	-
4	Constructed in such a way that they would reflect a meaningful use of the occupation in the future life of the students.	4(13.53)	19(63.33)	6(20)	1(3.34)	-
5	Consistent with the subject content of the instructional materials	8(26.67)	14(46.67)	7(23.33)	-	1(3.33)
6	Constructed in such a way that they would reflect key measurable outcomes	12(40)	12(40)	4(13.33)	-	2(6.67)

N.B. Figures in Parenthesis show the percentage

In an attempt to assess the extent to which teacher respondents were working inline with the instructional objectives stated in drafting curriculum guide/modules, series of questions were presented in as shown Table 24 with regard to the statement of objectives. Teacher respondents were asked to put a circle on a five point rating scale which denotes values that varies from strongly agree to strongly disagree. The value of 5 is given for strongly agree while value 1 is given for strongly disagree. A value of 0 is give where there is no response.

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- Shortage of adequate firms for apprenticeship training – Both Principals and teachers reported that apprenticeship program is not running according to plan because of non-availability of enough industries in the country to absorb all trainees.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATION

5.1 Summary of The Findings

The purpose of the study was to evaluate the implementation of 10+1 drafting curriculum in all TVET training centres of Addis Ababa. To this end, the following research questions were formulated.

1. How conducive is the learning teaching environment in the training centres for the full and effective implementation of 10+1 drafting the training program?
2. Is the implementation of the 10+1-drafting curriculum effective in enabling learners to have mastery of the subject matter?
3. What are some of the constraints, which affect the implementation of 10+1 drafting curriculum?
4. What problems in general are there whose solutions would improve the implementation of 10+1 drafting curriculum?

In order to find reasonable answers for the above research questions, appropriate data collection procedures were employed. Questionnaires, interview and observation checklists were prepared and administered to collect data from 19 principals and deputy principals, 33 teacher, and 205 students. The collected data was analyzed through percentage. The following the findings were observed.

- 5.1.7 Most of teacher respondents (81.82%) participated in workshops or in-service trainings related to the new 10+1-drafting curriculum. On the contrary, it is only (26.32%) of the principals who participated in similar trainings.
- 5.1.8 Most of the teachers, (51.52%), have participated in the development of 10+1 drafting curriculum.
- 5.1.9 Teacher and principal respondents disagreed about the link between training centres and employers in such a way that, (63.16) of the principals were in favour of the item while (54.55%) of the teachers disagreed with principals' opinion.
- 5.1.10 Students' poor background knowledge and language skill; poor supply of materials such as textbooks, difficulty of activities incorporated in the teachers guide; teaching large number of students in a class and poor supply of materials such as chairs, desks, drawing boards, drawing instruments were reported by teachers to be the five most detrimental factors affecting implementation of 10+1 drafting curriculum.
- 5.1.11 The Majority of teacher respondents agreed that the instructional objectives stated for the particular subject area couldn't be fully attained by using the existing materials, tools, and drawing instruments. The reasons for this being that drawing instruments are not adequately available for each of the students and they are not new and up to date as it was reported by (90%) of teacher respondents.
- 5.1.12 The Majority of teacher respondents, (55.58%), indicated that they teach three and more subjects.
- 5.1.13 Both students and teachers agreed that the time for the practical training is sufficient and moderately sufficient.

- 5.1.14 Majority of teachers agreed that the statements of objectives are not clear and understandable and not reflecting major aspect of the occupation aspects.
- 5.1.15 Large number of student respondents, (52.83%) were assigned to the training centre by their own choice while 45.85% of the respondents were assigned without their choice.
- 5.1.16 Majority of the students 69.76%, were placed in drafting field of study by their own choice while 29.27% of the respondents were assigned without their choice.
- 5.1.17 According to the majority of student respondents, the placement was based on high school examination results.
- 5.1.18 The findings also indicated that students got advice from parents and school friends to select the program they are studying presently.
- 5.1.19 Majority of the students indicated that equipments and instruments, teaching aids, raw materials and computer are the major factors that negatively influence the quality of the implementation of 10+1 drafting curriculum.
- 5.1.20 Most of the students, (83.42%), rated English as very valuable while 47.80% of students respondents gave the least valuable scale to Civics education.
- 5.1.21 According to the responses to open-ended questions, the main problems that impede the implementation of 10+1 drafting training were:
- Absence of Textbooks
 - Lack of drawing studios facilities,
 - Absence of standard drawing studios,
 - Sequence of modules,
 - Absence of well-qualified teachers etc.

5.2 Conclusion

Based on the major findings of the study the following conclusions are drawn.

- The findings indicate that some students joined the TVET centres without any prior knowledge of drafting field of study. This is because of the unavailability of some kind of examination that can be used as discriminating factors among the students.
- In addition to the unavailability of some kind of examination that can be used to discriminate among students, some students were assigned to the TVET centres without their choice and interest. Hence, it is not difficult to conclude that this kind of situation can have a negative effect on the outcome of the training program.
- Factors such as poor supply of teaching materials, absence of standard drawing tables, absence of adequate drawing instruments and drawing studios, students' poor background knowledge and language skill, absence of textbooks and teaching a large class size affect the implementation of 10+1 drafting curriculum.
- Majority of the teachers are found to be under qualified to teach in 10+1 training program according to the finding but there are a lot of activities carried out by MOE to alleviate the problem and many teachers are comfortable to teach in the program according to their response (Table 13 99 89)
- The majority of the teachers are teaching three and more modules that are different in nature and area of specialization. This has a negative influence on quality of implementation of 10+1 drafting training program since the program requires highly specialized skill in each module.
- The in-service training given to the teacher appears to contribute in enhancing teachers' ability to teach in the program.

curriculum more effective and efficient. In addition, standard drawing room facilities and drawing instruments should be provided to all the training centres on time.

5.3.5 Almost all teachers in the study reported that the sequence of the modules was not as it should be. Teachers suggested that the supportive course 'technical drawing' should come first before trainees are exposed to the main courses. In light of this, the researcher would like to recommend that effort should be made to rearrange the sequence of the modules so that the supportive course 'technical drawing' could be given first.

5.3.6 The study is limited to come up with all the critical problems in relation to 10+1 drafting training program. Hence it is the researcher's hope and belief that further and more in-depth study has to be carried out in order to provide plausible answers to questions/problems untouched by this study and to investigate similar issues in another setting to see the practice of TVET centres of other regional governments.

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Number of Respondents by Their Location

No.	Training centres	Principals	Teachers	Students	
				10+1	10+2
1	Addis Ababa Industrial College	2	4	30	10
2	Akaki middle level TVET centre	1	2	10	-
3	Entoto Business College	2	3	15	9
4	General Wingate Construction College	2	3	15	5
5	Nefas Silk middle level TVET centre	3	4	20	10
6	Misrak Middle level TVET centre	2	3	15	-
7	Higher 4 TVET centre	1	5	-	16
8	Higher 7 TVET centre	2	1	15	-
9	Higher 12 TVET centre	2	3	15	-
10	Higher 20 TVET centre	2	5	20	-
	Total	19	33	155	50
	Sub Total			205	
	Grand Total		257		

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF CURRICULUM AND INSTRUCTION
QUESTIONNAIRE (Department Heads and Teachers)

The purpose of this questionnaire is to collect information about the extent of the implementation of 10+1 drafting curriculum (Architectural drafting, machine drafting and structural drafting as well as the supportive course, technical drawing). The information to be collected through the questionnaire will be used only for research purposes. I therefore, kindly request you to provide genuine information for it highly determines the success of the study

It is hoped that the findings of the study will be of help to curriculum developers, researchers and those school personnel who are involved in offering courses in technical and vocational education.

Thank you in advance,

For each of the questions, you are requested to indicate your responses according to the directions given in each of the parts.

PART I

Direction: Please circle the letter of your responses and fill the appropriate responses, if the question require written responses.

1. Name of the training centre: _____
2. Sex a) Male b) Female
3. Age a) 15-20 b) 21-25 c) 26-30 d) 31-35 e) 36-40
 f) Above 40
4. Qualification a) 12 + 2
 b) 12 + 3
 c) BSc./BA
 d) Any other, specify _____

19. If your answer to question number 18 is 'yes', in what way did you take part?
- a) In setting objectives and contents while it was being drafted?
 - b) In commenting on the curriculum after it was put into Practice?
 - c) Please specify if any other: _____
20. If your answer for question number 18 is 'no' give your reason.
- a) Because you were not assigned?
 - b) Because you do not have experiences?
 - c) No response
21. If you had been participated in the development of the 10+1 drafting curriculum, to what extent your suggestions were incorporated?
- a) Completely
 - b) Mostly
 - c) To a certain extent
 - d) Not at all
22. Do you have curriculum guide for 10+1 drafting courses?
- a) Yes
 - b) No
23. How useful are curriculum guide to you in promoting the teaching/learning process?
- a) Very useful
 - b) Useful
 - c) Some what useful
 - d) Not useful
24. Do you have textbook for 10+1 drafting courses?
- a) Yes
 - b) No
25. How useful are textbooks to you in promoting the teaching/learning process?
- a) Very useful
 - b) Useful
 - c) Some what useful

d) Not useful

26. Are you aware of the objectives of the new TVET training program, which was stated in the 1994 ETP?

a) Yes

b) No

27. If your response for question number 24 is 'yes', do you think that the objectives stated for the program are reflected in the instructional objectives?

a) Yes

b) No

PART II

Direction: Please indicate the extent to which you agree or disagree with the following statements below. The value for each of the five points scales below are as follow (circle one of the number)

Strongly agree = 5, Agree = 4, Not Agree = 3, Disagree = 2, Strongly disagree = 1

28. Statement of instructional objectives in the subject you teach is:

a) Clear and understandable for the teacher and the students.

5 4 3 2 1

b) Constructed in such a way that they would reflect key measurable outcomes.

5 4 3 2 1

c) Constructed in such a way that they reflect key aspects of the occupation.

5 4 3 2 1

d) Consistent with each other at each grade level.

5 4 3 2 1

e) Consistent with the subject content of the instructional materials.

5 4 3 2 1

f) Constructed in such a way that they would reflect a meaningful use of the occupation in the future life of the students.

5 4 3 2 1

29. Is there a link between your school and employers?

30. Do you agree that the apprenticeship program is useful in equipping your students with the practical aspects of the training?

31. Do you think the students joining the training centre were;

- a) Adequately informed.
- b) Less informed.
- c) Not informed.
- d) I am not sure.

32. Do you believe that the objectives stated for your particular subject area can be attained fully by using the presently existing teaching materials, tools, and equipments in your training centre?

- a) Yes
- b) No

33. If your response for question number 30 is 'yes', do you mean that instructional materials, instruments, and equipment are?

- a) Adequately available for each of the students.
- b) New and up to date.
- c) Other reason (specify)_____

34. If your response for question number 30 is 'no', do you mean that instructional materials, instruments, and equipment are:

- a) Not adequately available for each students.
- b) Not new and up to date.
- c) Both.
- d) Other reasons (specify)_____

35. Do you believe that the skills and knowledge that students have learned in this training center enable them to work in the job market?

- a) Yes
- b) No

36. If your response for question 35 is 'yes' how did you know?
- a) Asking graduates who are working in different firms.
 - b) Through the feedback from employers.
 - c) Through other means (Specify)_____
37. If your response for question number 35 is 'no', the training they most likely need would be:
- a) More theoretical aspects than practical one
 - b) More practical than theoretical
 - c) Both theory and skills that may be available in working areas/industries and not included in the curriculum.
 - d) If any, given example_____
38. Did you come across something new that you would suggest to be taught in the current 10+1-drafting program?
- a) Yes (Specify)_____
 - b) No (Specify)_____
39. If your response for question number 38 is 'no', do you mean that:
- a) Every skill and knowledge that is needed in work area is being taught in the training centre.
 - b) The knowledge and skill that the students acquire from the training program enable them to adjust to whatever new skill and knowledge needed in the work area.
 - d) Other reasons (Specify)_____
40. In your opinion, the performance of the students during the apprenticeship is:
- a) Excellent
 - b) More than satisfactory
 - c) Barely satisfactory
 - d) Not satisfactory
41. In your opinion, the period allotted for practical session is:
- a) Sufficient
 - b) Moderately sufficient
 - c) Satisfactory
 - d) Not satisfactory

PART III

Direction: Following are list of possible factors that influence the extent of the implementation of 10+1 drafting curriculum.

N.B. 1 shows the factor is the most hindering one, while 4 show the factor is the least in affecting the implementation. Hence, the ranking will be from no. 1 to 4

4 = Very severely, 3= Severely, 2 =Moderately, 1 =Slightly, 0 =Not at all

46. Rank the following statement according to their priority in influencing the implementation of 10+1 drafting curriculum.

No.	Factors	Very severely (4)	Severely (3)	Moderately (2)	Slightly (1)	Not at all (0)
46.1	Supply of materials such as textbook, teacher's guide, syllabus etc.					
46.2	Unclear syllabus objectives and teaching activities.					
46.3	Student poor background knowledge and language skill.					
46.4	Periods to cover the curriculum and contents.					
46.5	In-service training on how to teach by modular approach.					
46.6	Difficulty of activities incorporated in the textbook					
46.7	Large number of students in a class					
46.8	Teaching Load.					
46.9	Supply of facilities such as chairs, desks, white boards, drawing instruments etc.					
46.10	Supports from school directors and other administrators on how to implements the curriculum.					

Part - I

Direction: Please put a check (✓) in the box of your response.

1. Sex Male Female
2. Age: a) 15-20 b) 20-25 c) 26-30 Above 30
3. Your school
- | | | | |
|----------------|--------------------------|--------------|--------------------------|
| - Entoto | <input type="checkbox"/> | - Akaki | <input type="checkbox"/> |
| - Nefas Silk | <input type="checkbox"/> | - Wingate | <input type="checkbox"/> |
| - Misrak | <input type="checkbox"/> | - Kefteгна 4 | <input type="checkbox"/> |
| - Tech. School | <input type="checkbox"/> | - Kefteгна 7 | <input type="checkbox"/> |
| - Kefteгна 12 | <input type="checkbox"/> | - Kefteгна | <input type="checkbox"/> |

4. Have you learned anything that is related to your present field while you were in your previous school?

Yes No

5. Have you joined this school in your own choice?

Yes No

6. Were you assigned to study your area of interest?

a) Yes b) No

7. If your response for questions No. 7 is 'no', what was your choice? (Write on the space provide)

8. If your response for question no 7 is 'yes', give your reasons.

9. How did you get admission to drafting training?
- a) Entrance examination
 - b) High school result
 - c) Other, specify
-

10. Who encouraged you to choose drafting field of study?
- a) Parents
 - b) School friends
 - c) Teachers
 - d) School counselors
 - e) Media advertisement
 - f) Other, specify
-

11. In your opinion, is the training time for the practical session is:
- a) Sufficient
 - b) Moderately sufficient
 - c) Not sufficient

12. In your opinion, is the training according to your expectation?
- a) Yes
 - b) No

13. If no, why?
- a) It is more theory
 - b) Lack of facilities
 - c) Low interest for practical training
 - d) Obsolete curriculum
 - e) Other reasons, specify
-

14. Rate the adequacy of drafting room facilities in your training centre.

	Inadequate	Barely Adequate	adequate	Very Adequate	Excellent
a) Equipment and instrument	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Teaching aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Raw materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) CAD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part - II

Direction: please indicate the extent to which you agree or disagree with the statement below. The values for each of the five-point scale are as follows.

Strongly agree	= 5
Agree	= 4
Not sure	= 3
Disagree	= 2
Strongly disagree	= 1

15. Do you think that the knowledge and skill you are learning in this school would be similar to the work in industries or other school?

5 4 3 2 1

16. Do you think that the teachers are capable of teaching the course in this program?

5 4 3 2 1

17. Do you think that the teaching learning approaches (module) is the best method of teaching?

5 4 3 2 1

18. Do you think that the apprenticeship program, which intended to be implemented at the end of the academic year, is properly carried out? Give reason.

5 4 3 2 1

19. Please indicate to what extent each of the following common subjects have been valuable to your present field of study.

(Use a check ✓).

Subject	Very valuable	Valuable	Not valuable
English			
Civics			
Physics			
Mathematics			

20. In your training centre what are the major problems that hindered the implementation of 10+1 drafting training program?

21. What are the major strategies used in your training centre to overcome these problems?

22. What do you suggest to improve the 10+1 drafting training program?

**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF CURRICULUM AND INSTRUCTION
QUESTIONNAIRE (Principals and Deputy Principals)**

The purpose of this questionnaire is to collect information about the extent of the implementation of 10+1 drafting curriculum (Architectural drafting, machine drafting and structural drafting as well as the supportive course known as technical drawing). The information to be collected through the questionnaire will be used only for research purposes. I therefore, kindly request you to provide genuine information for it highly determines the success of the study.

It is hoped that the findings of the study will be of help to curriculum developers, researchers and those school personnel who are involved in offering courses in technical and vocational education.

Thank you in advance,

For each of the questions, you are requested to indicate your responses according to the directions given in each of the parts.

Part I

Direction: Please circle your responses on the space provided and fill the appropriate responses, if the question require written responses.

1. Name of the School: _____
2. Sex a) Male b) Female
3. Age a) 15-20 b) 21-25 c) 26-30 d) 31-35 e) 36-40 f) Above 40
4. Qualification a) 12 + 2
 b) 12 + 3
 c) B.Sc./B.A
 f) Any other, specify _____
5. Major field of study: _____

6. Year of teaching experiences _____
7. Do you have work experience other than teaching?
- a) Yes, Specify _____
 - b) No, Specify _____
8. Do you have interest in vocational education (Particularly in drafting)?
- d) Yes
 - e) No
9. If yes, rank the following factors which promoted to choose this field of training (indicate the rank of each using 1st, 2nd, and 3rd; 1st being the highest relevant and 3 being the lowest irrelevant).
- a) The training promised employment opportunities.
 - b) The training gives social prestige
 - c) Access to further education.
 - d) Influenced by parents
 - e) Influenced by friends (teachers)
 - f) Teacher's influence
 - g) Other, specify and rank
10. If your answer for question no. 8 is 'no', indicate your reasons by ranking each statement 1st, 2nd, 3rd, 4th, 5th, 6th, and 7th; 1st being the most relevant and 7 being the most irrelevant).
- h) Because of limited job opportunities.
 - i) Because of low status.
 - j) Due to limited opportunities for higher education
 - k) Parent forced me to study the field.
 - l) Friends influenced me to study the field.
 - m) Teachers influenced me to choose this field of training.
 - n) Other, specify and rank.
-

11. Do you have curriculum guide of 10+1 drafting courses?
- a) Yes
 - b) No
12. How useful are curriculum guide to you in promoting the teaching/learning process as intended?
- e) Very useful
 - f) Useful
 - g) Some what useful
 - h) Not useful
13. Do you have textbook of 10+1 drafting courses?
- a) Yes
 - b) No
14. How useful are textbook to you in promoting the teaching – learning process as intended?
- a) Very useful
 - b) Useful
 - c) Some what useful
 - d) Not useful
15. Are you aware of the objectives of the new TVET training program, which is stated in the 1994 ETP?
- a) Yes
 - b) No
16. If your response for question number 13 is ‘yes’, do you think that the objectives stated for the program are reflected in the instructional objectives?
- a) Yes
 - b) No
17. Have you participated in any curriculum development process of TVET training program other than teaching in class?
- a) Yes
 - b) No

18. If your response for question number 15 is 'yes', how many times?
- a) Once
 - b) Twice
 - c) Three Times
 - e) More than three times
19. Was the workshop useful for your job?
- a) Yes
 - b) No
20. Is there a link between your school and employers?
- a) Yes
 - b) No
21. Do you agree that the apprenticeship program as one of the major components of TVET program is useful in equipping your student with the practical aspects of the training?
-
-
22. Do you think the students joining the training centres?
- a) Well informed.
 - b) Adequately informed.
 - c) Note sure.
 - d) Less informed.
23. Do you believe that the skills and knowledge that students have learned in this training center enable them to work in the job market?
- a) Yes
 - b) No
24. If your response for question number. 21 is 'yes' how did you know?
- e) Asking graduates who are working in different firm.
 - f) Through the feedback secured from employers.
 - g) Through other means (Specify)_____

25. If your response for question number 21 is 'no', the training they most likely need would be:
- a) More theoretical aspects than practical one
 - b) More practical than theoretical
 - c) Both theory and skills that may be available in working areas/industries and not included in the curriculum.
 - h) If any, given example _____
26. In your training centre, what are the major problems that hindered the implementation of 10+1 training program?
27. What are the major strategies used in your training center to over come these Problems?
28. What do you suggest to improve the 10+1 drafting training program?

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF CURRICULUM AND INSTRUCTION
 (Check List to collect relevant information about the condition of Drawing Room)

The purpose of this checklist is together relevant information on the condition of drawing rooms facilities.

1. Name of the training center: _____
2. Year of establishment: _____
3. Geographic setting:
 - 3.1 Kebele: _____
 - 3.2 Kifleketemea: _____
 - 3.3 Zone: _____

4. General condition of the vocational training centre:

	Inadequate	Barely Adequate	adequate	Very Adequate	Excellent
a) Attractiveness as a training Centre (trees, flowers, sport fields, fencing etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Provision for future Expansion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Access for power supply.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Access for water supply.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Suitable for income Generation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Availability of cafeteria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- g) Compound cleanliness and Availability of toilet

5. Facilities in the vocational training center

5.1 Classroom condition:

- a) Classroom size (2m²)
- b) Classroom condition
- c) Height (3m)
- d) Black board
- e) Desks/seats
- f) Natural light, artificial light
- g) Ventilation
- h) Display corner

5.2 Drawing room

- a) Drawing room (size 5m²)
- b) Drawing room condition
- c) White board
- d) Height (4m)
- e) Ventilation
- f) Drawing instrument
- Storage facility (cabinet)
- g) Display corner

5.3 Drawing room facilities

- | | | | | | |
|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a) Instruments | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Teaching aid | | | | | |
| - over head project | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Screen | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Consumable materials | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

5.4 Condition of instruments

- | | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a) Relevance of local
Situation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Appropriateness to the
Content of the textbook | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Appropriateness to
capacity of the trainers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Appropriateness to the
capacity of students | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) Up – to – dateness | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

5.5 Computer Centre facilities

- | | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a) Adequacy of computers | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Computer accessories | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF CURRICULUM AND INSTRUCTION**

Interview Guide

1. Would you comments on the availability of drawing instruments, equipments, and consumable materials? Do you think the materials support is adequate?
2. Do you think the content of the subjects you teach go in line with objective stated in the 1994 ETP?
3. What are the constraints that you face in the process of implementing 10+1 drafting Curriculum?
4. What do you suggest for the betterment of 10+1 drafting training program?
5. Would you please comments on 10+1 drafting training program? What to be changed and what to be added?

MIDDLE LEVEL TVET CURRICULA

Br.	Training Area	Training Field	Training Program (Occupation)		
			10+1	10+2	10+3
T E C H N O L O G Y	Construction Technology	1. Drafting	Assistant Drafting Technicians	Drafting Technicians	Advance Drafting Technicians
		2. Surveying	Assistant Surveying Technicians	Surveying Technicians	Advance Surveying Technicians
		3. Road Construction	Assistant Road Construction Technicians	Road Construction Technicians	Advanced Road Construction Technicians
		4. Building Construction	Assistant Building Construction Technicians	Building Construction Technicians	Advanced Building Construction Technicians
		5. Woodworking	Assistant woodworking Technicians	Woodworking Technicians	Advanced woodworking Technicians
	Industrial Technology	6. Machining	Assistant Machining Technicians	Machining Technicians	Advanced Machining Technicians
		7. Auto Mechanics	Assistant Auto Mechanics Technicians	Auto Mechanics Technicians	Advanced Auto Mechanics Technicians
		8. General Mechanics	Assistant General Mechanics Technicians	General Mechanics Technicians	Advanced General Mechanics Technicians
		9. Electricity	Assistant Electricity Technicians	Electricity Technicians	Advanced Electricity Technicians
		10. Electronics	Assistant Electronics Technicians	Electronics Technicians	Advanced Electronics Technicians
	Textile & Garment Technology	11. Textile Technology	Textile craft Person	Textile Technicians	Advanced Textile Technician
		12. Tailoring	Tailor	Advanced Tailor	-
		13 Dressmaking	Dressmaker	Advanced dressmaker	-
B U S I N E S S & S E R	Business & Information Technology	14. Accounting	Beginner Accounting Clerk	Accounting Clerk	Junior Accountant
		15. Secretarial Science	Junior Secretary	Secretary	Administrative Secretary
		16. Purchasing	Purchase, store & Freight Clerk	Purchase & Supplies Clerk	Purchase, Store, Transit, & Supervisor
		17. Marketing	Sales Person I	Sales Coordinator	Assistant Sales Manager
		18. Banking & Insurance	Assistant Bank & insurance operator	Bank & insurance operator	Bank & insurance Clerk
		19. Information Technology	Office Automation Technicians	Information Technology Assistant Technicians	Information Technology Technicians
Hotel Service & Beautification	20. Bakery & Confectionery	20. Bakery & Confectionery	Bakery & Confectionery Maker		
		21 Food Preparation	Cook	Advanced Cook	
		22. Hotel Service	Hotel Service Person		

V I V E		23. House Management	House Manger		
		24. Hairdressing & Beautification	Hairdresser	Hairdresser & Decorator	
B A S I C & S O C I A L D E V .	Social Development	25. Physical Fitness, Athletics & Gymnastics	Physical Fitness, & Athletics Coach	Physical Fitness, & & Gymnastics Coach	
		26. Ball Games	Racket Ball & Hand Ball Games Coach	Racket Ball Games Coach	

Appendix 8

**Subjects offered at Comprehensive Secondary Schools
In Grade 11 and 12**

No.	Subjects	Areas of Study				
		Academic	Agriculture	Commerce	Home Economic	Productive Technology
1	Amharic	3	3	3	3	3
2	English	5	5	5	5	5
3	Mathematics	5	5	5	5	5
4	Biology	3	3	-	4	-
5	Physic	3	-	-	-	3
6	Chemistry	3	4	-	4	3
7	Political Education	2	2	2	2	2
8	Home economic	-	-	-	6	-
9	Commerce	-	-	14	-	-
10	Agriculture	-	7	-	-	-
11	Physical Education	1	1	1	1	1
12	History	2	-	-	-	-
13	Geography	3	-	-	-	-
14	Productive Technology	-	-	-	-	8
	Total	30	30	30	30	30

Appendix 9

The subjects offered in different Grade Level in General Polytechnic Education System and the Period Allotment for each Subject.

No.	Subjects	Grade Level			
		Grade 7	Grade 8	Grade 9	Grade 10
1	Amharic	4	4	4	4
2	English	6	6	6	6
3	Mathematics	5	5	3	6
4	History	2	2	2	2
5	Geography	3	3	2	2
6	General Sciences	4	4	-	-
7	Physical Education	1	1	1	1
8	Political Education	1	1	2	2
9	Agriculture	2	2	2	2
10	Productive Technology	3	3	2	2
11	Home Economics	1	1	1	1
12	Commerce	1	1	1	1
13	Music	1	1	-	-
14	Art	1	1	-	-
15	Biology	-	-	2	2
16	Physics	-	-	2	2
17	Chemistry	-	-		
	Total	35	35	32	35

**Field of Studies and Location of the Training Centres of General Polytechnic
Education Training.**

No.	Field of Study	Location	Type of School
1	Building Construction	Addis Ababa	General Wingate
2	Agricultural Technology	Bore, Gojjam Meressa. Wollo Dilla, Sidamo Asabe Teferi, Harar	Bure Agriculture School Dilla Agriculture School
3	Industrial Technology	Dire Dawa, Harar Nazareth, Shoa	Dire Dawa Technical School Glawdiwos Technical School

DECLARATION

I, the undersigned, declare that this thesis is my work and that all sources of materials used for the thesis have been dully acknowledged.

Name: Mekonnen Lemma

Signature: _____

A handwritten signature in blue ink, appearing to be 'Mekonnen Lemma', written over a horizontal line.

Addis Ababa, June 2004