Addis Ababa University

College of Education and Behavioral Studies

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(Management of Vocational Education Unit)

The Linkage between Polytechnic TVET Colleges and Industries in Addis Ababa: Challenges and Prospects.

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ADDIS ABABA UNIVERSITY

COLLEGE OF EDUCATIONAL BEHAVIRIAL

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(MANAGEMENT OF VOCATIONA EDUCATION UNIT)

THE LINKAGE BETWEEN TVET POLYTECHNIC COLLEGE AND INDUSTRIES IN ADDIS ABABA: CHALLENGES AND PROSPECT.

A Thesis Submitted to the Department of Curriculum and Instruction Addis Ababa University, in Partial fulfillment of the Requirements for the Degree of Master of Arts in the Management of Vocational Education.

By:

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DEPARTMENT OF CURRICULUM AND INSTRUCTION

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Declaration

I declare that this thesis is my original work and has not been presented for a degree in any other university and that all sources of materials that I have used or quoted have been duly acknowledged and indicated by means of complete references.

Name: _____

Signature _____ Date_____

Date of submission _____

This thesis has been submitted for examination with my approval as university advisor.

Signature _____ Date of Submission _____

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Abbreviations and ACRONYMS

ESDP Education Sector Development Program

ILO International Labor Organizations

MOE Ministry of Education

MSEs Micro and small enterprise

NOS National Occupational Standards

NGO Non-Governmental Organization

OBT Outcome-Based Training

OS Occupational Standard

UNESCO United Nation Scientific and Cultural Organization

TVET Technical and Vocational Education and Training

PASDEP Plan Africa for Accelerated and Sustained Development to End Poverty

AU African Union

CSA Central statistics Authority

FDRE Federal Democratic of Ethiopia

ICT Information Communication Technology

WTO World Trade Organization

VE Vocational Education

SCI standard Industrial Classification

SIWES Student Industrial Work Experience scheme

Abstract

The purpose of this study was to investigate the linkage between TVET polytechnic colleges and industries in Addis Ababa: to this end a descriptive survey design was employed. A total of 277 respondents were selected and concluded using purposive sampling, stratified and simple random sampling techniques were employed .instrument of data collection were questionnaires ,semi-structural interview guide and observation. The data analysis used statistical measurements led to the following major findings: It was found out that the study revealed that the TVET graduates from both Colleges passed low level skill and they don't have the required confidence in carrying out their duties and responsibilities, It was found out that TVET polytechnic Colleges and industries had weak linkage in such areas like industrial visits and work shop . It was found out that industries didn't recognize and appreciate the activities of trainers and their qualification adequately: Based on the findings ,it Was concluded that , instructors were usually using the traditional lecture method during the training instead of learner –centered methods and techniques. Finally , the following recommendations were forwarded: TVET polytechnic Colleges should establishes partnership with stakeholders through workshops ,Seminar, Curriculum development ,experience sharing and labor market analysis's ,the federal TVET Agency is advised to provide varies incentives for industries that accept trainees and help them the required skill , knowledge and work ethics.

Chapter One

1. Introduction

This study investigated the linkage between Polytechnic TVET Colleges and Industries in Addis Ababa: challenges and prospects. It explored the demand of skilled man power in the labor market which is needed along the linkage of the TVET polytechnic Colleges and Industries. Hence, this introductory chapter included background of the study, statement of the problem, basic research questions, objectives, significances, scope of the study, limitations, definitions of key terms and the theoretical bases and conceptual framework of the study to proceed as per the title of the study.

1.1 Back ground of the study

Education plays a great role in contributing to the economic development of both developed and developing countries. Especially sustainable economic development, environmental protection, social and political development of a nation directly or indirectly depends on education (Derebssa, 2008) .

ILO (2010) stated that education has been identified as an important determinant of economic growth. Higher levels of educational attainment leads to a more skilled and productive workforce, that can produce higher standard of goods and services more efficiently. This in turn forms the basis for faster economic growth and rising living standards.

With regard to TVET, the UNESCO and ILO (2002) in their recommendation stated that quality TVET helps to develop the individual's knowledge of science and technology in a broad occupational area requiring technical and professional competencies and specific occupational skills. National TVET systems therefore need to develop the knowledge and skills that will help the workforce become more flexible and responsive to the needs of local labor markets, while competing in the global economy (UNESCO ,2002).

Due to the fact that some institutions are poorly resourced, the education and training remain theoretical and the graduates are not considered more skilled than their academic counterparts by the labor market. The institutions there by acquire a poor image, and produce

graduates with lower employability (NICHE, 2010).there are little or no manpower with appropriate skills to fill the vacancies for the available jobs (Alfred, 2010).

The interaction between research (TVET) institution and the industry has been considered a strategic instrument for national, regional innovation, competitiveness and economic growth (Raste, etal.,2012). TVET institution operates in an environment characterized by fast technological progress, emerging careers, change jobs requirement and increased competition .These changes have necessities an industry institution collaboration in order to address this challenge (Plewa and Quester,2008).

The teaching methods in TVET institutions have not succeeded in impacting positively on practical skills acquisition of graduates of TVET institutions. These methods of instruction include: the traditional lecture method based on sound theoretical background, group discussions, field trips and Students Industrial Work Experience Scheme (SIWES). However, modifications of these approaches are very imperative to meet the current industry challenges (Oduola ,Olorufemi& Ashaolu, 2008).

The industry often complains that the existing technological institution's curricula fall short to tackle the practical problems in the industry. For instance, the industry expects the technological institutions to train their future employees with the latest technology. This is because technological institutions lack proper curricula that are suitable for the industries (Ayofe, etal., 2009). This causes a gap between the technological institutions and industry that needs to be bridged so that the graduates can fit into the industries upon graduation. The industry is constantly broadening and the knowledge is increasingly becoming complex. The role of developing better curriculum in technological institution's program is important in bridging the gap between the changing technology and the industrial needs of employers. Technological institutions should make provision for conducive learning environment and industry oriented curriculum that the business community perceived as meeting their needs. Curricula are expected to be developed with the objective of producing skilled and employable workers that can easily fit into the industry without being re-trained (Ayofe, et al., 2009).

The effectiveness of TVET will be perceived as a service to the community for specific needs and at a certain time. To effectively implement TVET program, it is necessary to fully

involve industry in the process of managing TVET education through an integrated approach. Applying such an approach, in addition to the effort of linking education to the world of work can also decrease the cost of education because TVET program can be provided by industrial facilities (Suartini , et al, 2010).However, the linkage of TVET institutions with industries is one of the major problem of Ethiopia ,Meserak (2014).

TVET has great importance to alleviate poverty, reduce unemployment and underemployment, and help graduates to cope with the ever changing technology and economy, however its quality of delivery is low especially in developing countries. In general, the quality of training is low, with due emphasis on theory and certification rather than on acquisition of skills and proficiency testing. Inadequate training of instructors, obsolete training equipment and lack of instructional materials are some of the factors that reduce the effectiveness competency based TVET program in meeting the required knowledge, skills and attitude (AU, 2000).

With the Plan for Accelerated and Sustained Development to End Poverty (PASDEP), the Industrial Development Strategy and other sector development strategies, the Ethiopian Government has initiated a new push towards creating frameworks conducive to economic and social development. Comprehensive capacity building and human capital formation are key pillars in all these efforts. As such, this National TVET Strategy is an important element of the overall policy framework towards development and poverty reduction as indicated in the current growth and transformation plan of the country.(National Technical and Vocational Education and Training TVET Strategy ,2008).

The Industrial Development Strategy of 2003 highlights the tremendous human resource deficits in Ethiopia being a major reason for the low state of industrial development. According to the Strategy "we do not as yet have an educational and a training system that is capable of producing the manpower that is both professionally and ethically capable of carrying and sustaining the responsibility of seeing to it that our industrial development program will have achieved its goals". It, therefore, calls for efforts to raise the quality of the Ethiopian workforce to international standards, to reverse the previous marginalization of industrial professions in the TVET system, and to put a substantial focus on building a culture of entrepreneurship and preparing people for self-employment. Overall it is unknown how many Ethiopians in total have access to relevant TVET (including

formal, non- and informal TVET). It is assumed, however, that demand by far exceeds the current supply and that the majority of the population is not reached by TVET offers at the moment. In particular, TVET accessible to school drop outs, unemployed, workers in industry and the MSE(micro & small enterprise) sector, prospective entrepreneurs, people living in rural areas and women is in very short supply as indicated in the current and transformation plan of the country(National Technical and Vocational Education and training TVET strategy ,2008,).

Under Education Sector Development Program (ESDP) III, the TVET sector has benefited from significant policy and strategy development. One major milestone was the development of the nationwide TVET strategy, which stipulated that the vision for Technical and Vocational Education and Training (TVET) in Ethiopia is to create competent and self-reliant citizens and transfer of demanded technologies to contribute to the economic and social development of the country, thus improving the livelihoods of all Ethiopians and sustainably reducing poverty .

TVET proclamation of Ethiopia (391/2004) states that partner enterprises shall receive and provide apprenticeship training to trainees, assign apprentices to places appropriate to their training, and ensure that apprentices acquire proper work experience. The enterprises are also obliged to evaluate, and to forward their opinion on the apprentices' performance to the concerned organ. The Ministry of Education (2010) claimed that enterprises were involved and benefited from cooperative training. .

The objective of this study was to investigate the linkage between TVET poly technic college and industries in Addis Ababa . Accordingly, about 31 million of her people live below the defined poverty line and some millions of her people are at risk of starvation each year. The 2008 TVET strategy document reveals that, unemployment and underemployment is a persistent problem of the nation, and unemployment among youth is significantly higher than the rest of the workforce. Human resource deficient is a major reason for the low state of industrial development. Abundant and hard working labor force are the basis of the competitiveness of our companies. Our industries may have the opportunity of becoming competitive by utilizing this abundant and hard working force. Unless this abundant and hand working force is promoted into productive citizens, the

presence of abundant labor force alone could not be served as a means of reaching to the desired good (Industry Development Strategy,2002,P.,4).

In Addis Ababa therefore, There is a gap in the relation to quality of leadership and management, coordinating the implementation of the linkage program, monitoring and evaluation also have a great impact in TVET industry linkage. Even from the interview with Federal TVET agency they suggested that their mission is the industry should have owner of the TVET colleges Meserak ,(2014).there are gross mismatches between supply and demand for skilled labor, widespread underemployment in the informal sector and low productivity. The implication is that technical and vocational education and training should therefore be demand driven, it must also be able to promote enterprise culture so as to offer a wide range of employment opportunities to the youth and others.

This paper discussed extensively on TVET institutions and industry partnership as a necessity for graduates' skills acquisition. So that in order to establish linkage between the industries and TVET institutions amongst which are: that TVET institutions and local industries should collaborate to organize seminars and workshops and the changing trends in industrial practices and how these changes can be incorporated into the curriculum of the school and also TVET institutions should be charged with over sight responsibilities by putting up structures and policies that will facilitate industrial-institutional links for sustainable integrations and also the linkage between TVET and industries almost always local Therefore, it is rational to study the challenges and prospects linkage between industries and TVET polytechnic college in selected TVET polytechnic colleges.

1.2. Statement of the problem

Studies conducted by other research finding point out that involvements of industries in design curriculum was not encouraging and also luck of TEVT strategy and guiding rules, and procedure are the main impending for loose linkage between TVET college and industries(Meserak,2014) MA. Thesis in title "Practice and Challenge of Linkage Between public Technical vocational Education Training College and Industries".

Issues related to cooperative training are all rated as moderate or low by the trainers and trainees. This may imply that cooperative training is not being carried out properly. Failure to carry out such a TVET cornerstone activity due to various reasons might harm the training process to a larger extent resulting in shortage of skilled labor force.

Likewise In Guraghe zone also (Desalegnen,2014, Practice and Challenges of Co-operative Training in TVET Institute and Companies) indicated that the major problem of the linkage of TVET college and industries was related to the moderate or low implementation of cooperative training. This may imply that cooperative training is not being carried out properly. Failure to carry out such a TVET cornerstone activity due to various reasons might harm the training process to a larger extent resulting in shortage of skilled labor force.

The existing technical skills gap between the graduates of TVET and the industry has become a major concern of TVET colleges, business leaders and educators in Ethiopia Employers of labor have continued to express their concern and worry over the quality of the current graduates of TVET programs in their short of relevant skills required for employment (Idris&Rajuddin, 2012).

The reason for investigating of the linkage between TVET polytechnic colleges and industries will be identifying the research gap ,Policy and practice and also to address the need of skilled man power in terms of an employment, in order to meeting the need of the skilled manpower of industries and society. However, both the above mentioned studies didn't focuses on linkage .therefore ,this studies contribute to closing the existing gap.To This end, the following basic research questioner are raised:-

1. What does the linkage between polytechnic colleges and industries look like in Addis Ababa?
2. What does the availability of in the infrastructure in the TVET polytechnic Colleges and industries look like?
3. What are the challenges and prospects of TVET polytechnic colleges and industries linkage ?

1.3. Objective of the study

1.3.1. General objective

The general objective of the study is to look in to the Linkage between TVET polytechnic College and Industries in Addis Ababa.

1.3.2 Specific objective

1. To identify the training system of the TVET polytechnic colleges to produce labor market need skilled man power.
2. To investigate whether the TVET polytechnic colleges satisfied the man power need of industries
3. To identify the challenge

1.4 Significance of the study

The linkage between TVET polytechnic college institutions and industries as well as the role of teachers' training in implementing competency based TVET very important to balance the labor market . Thus, it may help of TVET officials to be aware of the importance linkage between, it may TVET trainers to strength the relation with industries .An important factor of success within the concept of TVET polytechnic Colleges is the collaboration of industrial companies with providers of education and training as well as with municipalities within a region. Technique college helps to increase resource efficiency through collaboration in order to improve the quality of the courses. Furthermore, these providers must work closely together with the region´s industrial companies. This makes it possible to share costs and to benefit from each other's experiences and networks.

The findings of the study provide alternative approaches to policy makers, stakeholders, TVET leaders, teachers and researchers. In addition, the study might be significant in bringing about changes in the perceptions of stakeholders about the integration of TVET curriculum to industries. It may also serve as a spring board for the researchers interested in further study on the issue under investigation and TVET becomes unavoidable and necessary.

1.5. Scope of the study

To carry out research in the issue of TVET program in Addis Ababa city administration will be comprehensive and hard to cover the entire TVET colleges of the city. However, due to resources and time constraints, it is delimited to some selected public TVET college of Addis Ababa city administration because, the TVET program is implemented more in the public TVET College. Furthermore, in Addis Ababa, there are six government TVET poly – technique colleges currently offering training in different fields of studies in the college levels. This study was delimited to only two public TVET polytechnic colleges in Addis Ababa city administration. The sample colleges are Nefas silk Polytechnic College and Tegibare -id Polytechnic College. The reasons for selecting these two TVET colleges are, their better experiences in offering training and educational programs at college level. Furthermore, presently in Ethiopia, a number of TVET program at different levels are offered, which lead to different certificate levels which ranges from level IV to level V .from this middle level technical and vocational education training programs level IV and level V trainees are selected. Because these levels trainees have stayed longer in the college and they can provide the necessary information better than trainees at the lower levels in addition to this, the study will focuses on three fields such as automotive engine, electrical industrial Auto-machinery Control technology, General mechanics . Because these fields of trainings have using different teaching equipment, different instructional materials and tools in their work shops and also they have good experience ,redness for in terms of an employment in industry linkage skilled man power needs.

1.6. Limitation of the Study

One of problems that the researcher encountered may be reluctance of some trainers and trainees to fill out and turn back the questionnaires during questionnaire distribution . In addition to lack of financial resources would affect this research activity in taking more institutes to investigate more research problems. Some of respondent probable refuse to returns the questionnaires because of the research conducted before are not viable to ground into practice .However, the researcher should manage these limitations with continuous follow up and negotiation with regards.

1.7. Definitions of key terms

TVET:-Technical and Vocational Education and Training (TVET**) -** a training program provided by training institution with a view to acquiring or upgrading his/her technical and vocational skills (FGN, March 1, 2004, No. 391,2004:2553).

Stakeholders-; participants who are expected to be involved in planning, implementing and evaluating the performance of implementation of CT program including trainers, trainees and companies.

Trainer ; a TEVT trainer is an instructor, facilitator, or supervisor who is qualified to facilitate specific occupations (MoE, 2010:7)

Competence: Competence is the possession and application of knowledge, skills, and attitudes to perform work activities to the standard expected in the work place.(TVET strategy,p.21)

MESO:Micro Enterprise Service of Organ(Indian'S Best Neuro Hospital ,2018).

1.8. Organization of the study.

the research thesis is organized in five chapters . the first chapter is introduction consists of background of the research, statement of the problem, objective of the study and significant, delimitation and definition of key terms. the second chapters deals on literature review, the third chapter deals with research methodology. the fourth chapters cover on presentation, analysis of Data and interpretation of findings and the last chapter is about summary conclusion and recommendation of the study.

CHAPTER TWO

2. REVIEW OF LITERATURE

2.1 The Concept of Technical and Vocational Education and Training (TVET)?

TVET refers to "aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupancy in various sectors of economic and social life" (UNESCO and ILO, 2001).

Technical and vocational education (TVET) is broadly defined as education which is mainly to lead participants to acquire the practical skills, knowhow and understanding, and necessary for employment in a particular occupation, trade or group of occupations (Atchoarena, &Delluc, 2001). Such practical skills or know- how can be provided in a wide range of settings by multiple providers both in the public and private sector.

According to Bennell (1999) the role of TVET in furnishing skills required to improve productivity, raise income levels and improve access to employment opportunities has been widely recognized. In support, Nyerere (2009) assert that developments in the last three decades have made the role of TVET more decisive in the globalization process technological change, and increased competition due to trade liberalization necessitates requirements of higher skills and productivity among workers in both modern sector firms and Micro and Small Enterprises (MSE). Skills development encompasses a broad range of core skills (entrepreneurial, communication, financial and leadership) so that individuals are equipped for productive activities and employment opportunities (wage employment, self-employment and income generation activities).

The root of the shortage of skilled labor can be traced to persistence of antiquated and unresponsive training mechanisms in vocational and technical systems which are not providing new entrants with appropriate skills (Lopez-Acevedo, 2003) A study by Taylor (2005) focused on school vocational education and training and found that youths undertook was explicitly focused on the acquisition of 'hard' skills and acquisition 'soft skills', was presumably incidental and their acquisition was assumed to occur largely by

osmosis. Youths demonstrated a high awareness of the role that personal attributes and demeanors would play in obtaining and maintaining employment in the trades.

2.2Principles of TVET

TVET in Ethiopia has various conceptual & non Conceptual principles. One of the conceptual principles is "stakeholders involvement", specifically stakeholders are needed to play a major role in various function as the TVET system, one of these function is stakeholders are needed since they contribute much to the success of the system by participating in "TVET delivery through the provision of training to their own staff, offering internship to trainees & providing apprenticeship training." Concerning TVET delivery, the non-public sector needs to play a decisive role. It already contributes through in-company TVET schemes & in particular, through wide spread traditional apprenticeship training provided in the micro & small business sector. In addition to these employer based TVET schemes, non-government TVET institutions will become an increasing important pillar of the overall TVET supply. Hence, in short among various role of improving & widening training delivery made in the central role that stakeholder could play; this led us to the discussion cooperative training which warrants a genuine Cooperation between TVET institution and stakeholders ,pramila (2013).

2.3 Vocational Training /Education.

Vocational training education is a system which aims at providing recipients with the necessary knowledge and skills to exercise a profession in order to be integrated in the labor market. Vocational training includes initial vocational training/education &continuing vocational training here understanding of the concept give much weight to its purpose. UNESCO in Bennet (2003:6) defined vocational education giving much weight to typology, departmentalization & level as "formal education designed to prepare for skilled occupation in industry, agriculture & Commerce generally at secondary level." In so doing here Vocational education considered as formal education. By giving much emphasis to its value in life UNESCO & ILO in Bennet (2003:12) describe it as "provision of opportunity for individual or groups to gain directly & broadly applicable long term relevant option of alternative for improving the quality of their life." Continuing TVET refers to training activities in which people take part in order to obtain knowledge and/or learn new

skills for a current or a future job, to increase earnings, to improve carrier opportunities in a current or another field (MOE, Ruwanda, 2008).

2.4 TVET under Education Sector Development Program IV (ESDP)

The main objective of the TVET sub-sector is to train middle level human power and transfer demanded technologies, and by doing so, to contribute to poverty reduction and sustainable development. In this respect, under the past ESDP I, II, and III significant achievement was made in increasing trained middle level human power. Under ESDP III, the TVET sector has benefited from significant policy and strategy development. One major milestone was the development of the nationwide TVET strategy, which stipulated that the vision for Technical and Vocational Education and Training (TVET) in Ethiopia is to create competent and self-reliant citizens and transfer of demanded technologies to contribute to the economic and social development of the country, thus improving the livelihoods of all Ethiopians and sustainably reducing poverty. Furthermore, a major shift from a system based on input to outcome orientation has been achieved. Other major recent events providing policy direction were the TVET focus direction, the nationwide education conferences and the reports on capacity building and manufacturing extension. It is suggested that under ESDP IV, the reform of the system initiated under the TVET strategy will be made operational, while a new emphasis will be laid on the enhancement of quality. This will involve implementing an outcome based training system dedicated to promote trust and cooperation among stakeholders, as well as strengthening the role of the TVET system in becoming an agent in technology acquisition, accumulation and transfer. With this in mind, the TVET system is expected to fully contribute to Ethiopia's vision to become a middle income country by the year 2025.

2.6 TVET sector in Ethiopia,

Formal, Non-formal and Informal

TVET is seen as an overarching term to describe all modes of formal, non-formal and informal training and learning below higher education provided by all government and non government providers. The TVET aims to provide more TVET opportunities to a wide range of different groups including, school leavers, dropouts, people without formal education

including illiterates, entrepreneurs and employees, farmers and their families, people from marginalized ethnic groups and other groups.

Realizing the need for skilled human power, it has been envisaged that:*"Technical and Vocational Education and Training (TVET) in Ethiopia seeks to create competent and self-reliant citizens to contribute to the economic and social development of the country, thus improving the livelihoods of all Ethiopians and sustain ably reducing poverty."* (*Schokland Programme on TVET* ,January 2009).

It was with this vision that measures were taken to expand the formal and non-formal TVET program across regions and Woredas. Formal TVET has been provided mainly to secondary school leavers. Working people have also been benefiting from the program through evening classes and distance learning. Non-formal TVET has been offering training to a wide range of groups .

Informal TVET sector is also recognized and described as those operations which are unregistered and operating on a very small scale and with a low level of organization. The informal sector operates without fixed locations or in small shops, outlets or through home-based activities. The government has little or no direct involvement in informal TVET in other words it is not supported, or regulated by the government.

2.7 The rational Memorandum of Agreements (MOU) Between TVET Polytechnic college and Industry in Ethiopia

MOE(2007),stated that the cooperating partner (enterprise /TVET institution) in the cooperative training should established a Memorandum of Agreement to identify the occupation in which they want to cooperate which include the nature and objective of the cooperatives train program occupational area and activity for which cooperative training is to be provided ; the commencement and the duration of cooperative training right and obligation the parties duration ;duration in hours ,status of trainees, condition for MOA termination and performance monitoring and evaluation system . A Memorandum of Agreement (MOA) or its equivalent , enter in to by the TVET institutions and the partner establishment , which spells out the terms And conditions of the training partnership.

The Training contract document between enterprise and trainee MOE(2007) , Stated that enterprise participating in cooperative training will be complete a training contract with each trainee. The training contract document should at least specify name of cooperating parties ;the traing plan ;time table and purpose of the cooperative training in particular in the form of occupational activity for which cooperative training is to be provide ;the commencement and the duration of cooperative training ;any cooperative training measures taking place out side the trainigng premises ;the length of the normal daily hours of cooperative training ;the length of prohibition period , the payment of allowance if any ; and the trainees statutory representative . an enterprise should provide the trainees and their statutory representative with a copy of the signed document.

2.8 The Rational of Competency Based Curriculum Design in TVET polytechnic College

From the time the term 'curriculum' was added to educators' vocabularies, it has conveyed many things to many people. It has been seen differently by different people. To some, curriculum has denoted a specific course, while, to others it has meant the entire educational environment. Even though perceptions of the term may vary, it must be recognized that curriculum encompasses more than a simple definition. Curriculum scope is extremely broad, and it touches virtually everyone who is involved with teaching and learning. Although the theoretical debate of the term curriculum continues, it has been agreed that curriculum should be seen as an overall plan for instruction. It consists of a statement of aims and objectives of contents in terms of theoretical knowledge, practical skills to be acquired, attitude towards work and necessary support materials to be used in its presentation (Sajula, 1993). Nevertheless, the main purpose of this topic is not to compare different definitions of curriculum but to see how it is designed within the context of TVET. Competency based curriculum is a well planned and structured document showing what a learner (student) is expected to learn and achieve in terms of skills, knowledge and understanding. It describes all aspects of teaching and learning such as learning strategies, assessment methods and the intended outcomes of learning. It is through curriculum that purposes and values of learning can be realized. Curriculum contents can be identified to support attainment of desired competencies; learners are analyzed against required competencies at a given level of training. Activities, methods and media for teaching and learning are decided and means of assessment are provided in order to measure effectiveness of educational delivery. It aims to make trainees more

competent through acquisition of competencies and further development of the newly acquired competencies (Kouwvenhoven, 2003).

To develop a curriculum that will provide the required competences requires an institution or a competent authority to pass through a series of stages. These stages include planning, conducting situation analysis, formulation of learning outcomes, assessment criteria, teaching and learning strategies for achieving the curriculum goals and objectives, modularization and semesterization of curriculum, and approval and validation of curricula. TVET curriculum design gives more emphasis to the students and community needs and substantive outcomes. Its development should reflect the training needs of the job market. TVET curriculum focuses not only on the educational process, but also on the tangible results of the process. This is one of the reasons that make TVET curriculum distinctive from other curricular areas. As a result, TVET curriculum planners must have a sound understanding of curriculum development process (Finch and Crunkilton, 1999).

In any education or training system, it is important to create a curriculum because it constitutes the guideline for planning, conducting and assessing learning process. According to Deibinger (2005), curriculum development can be approached from three different perspectives. The first perspective is to regard curriculum as a rational or linear, that is, it is a logical process which proceeds from objectives to selection of learning experiences and to the organization of learning material to evaluation. The second perspective sees curriculum development as a cyclical model, where whole learning process is a cycle which continually renews itself so that evaluation leads to the reformulation of objectives. The third one implies an interactive model assuming that curriculum development can commence at any stage and that feedback leads to constant change at any stage.The two most commonly used methods of curriculum development in TVET are DACUM (Develop a Curriculum) and functional analysis which can be rated and described as linear models.

2.8.1 Demand and supply for the labor Market in Ethiopia

Presently Ethiopia has not developed a good periodic Labor Market Information System for tracking the labor market activities and needs. Lack of this vital instrument makes it difficult

to produce a reliable projection of the labor market demand and supply as it exists now. However, general factors such as public and private spending on investment, introduction of new technology, population growth and distribution, education and training and availability and access to labor market information have significant impact on the demand and supply of labor Mismatch on Labor demand and supply usually occur as a result of imbalances among the factors listed above.

CSA(central statistics Autority)defines economically active population as all persons aged ten years and over who were employed or unemployed in a given period of time. Based on this definition, in 2018, the size of economically active population is estimated at 70,000,000, a 3 percentage point increase from 2010. Similarly, the urban population growth rate is estimated at 4.9 % per annum. This fact indicates that there are a large number of new entrants into the labor force.

The size and quality of urban labor supply is also reportedly increasing. In particular the skills profile of the urban workforce has been rising. In 2005 three quarters of youth had at least four years of schooling. Generally, the composition of employment and labor force is changing in line with the overall decline in illiteracy and increase in supply of skilled workforce.

Despite improvement in supply of quality and quantity of the workforce, the supply of labor seems to exceed the demand in formal labor market. The reason behind this disequilibrium is slow growth of formal private sector economy, particularly the manufacturing sub sector development, to accommodate and absorb the fast growing urban population employment needs.

The 2005 National Labor Force Survey conducted by CSA indicate that although wages and benefits are lower, self employment appears to be the major source of employment to significant portion of the skilled labor force in urban areas. Therefore, given the nature and structure of the economy, currently demand for labor is majorly made up of the self employment and informal sector employment. Furthermore, absence of established institutions to provide employment information and employment related services also constrained smooth flow of information on existing labor market.

Issues Related to Labor Market

Diversification and development of the manufacturing sector of the economy to play a very important role in creating and expanding employment opportunities for the growing population and for expand this sector as it stands now; the informal sector is one of the major providers of jobs and income for the urban and rural population. Efforts should be made to gradually and voluntarily bring informal-sector businesses into the formal sector, and use its potential to generate formal employment and increase household income. Inability to link education and training to labor market demand results in mismatch of employment or underemployment. Thus, Improvement in the quality of TVET trainings and structural linkages to industries will increase chances of employment for graduates. Likewise To improve school to work transition; Concerned authorities should develop, institutionalize and publish period labor market information and trends And the Formal education and TVET institutions should make an effort to learn and follow current labor market demand and trends to reflect and act according to industry needs and requirements after all Regular schools and vocational training institutions producing candidates for the labor market should consider establishing career counseling and placement departments to assist graduates in finding employment and to monitor and track transition of students from school to work. in addition to this To address youth unemployment and to facilitate easy entry into the labor market, well planned and monitored apprenticeship program should be developed and implemented.

2.8. 2 Theoretical fream-work

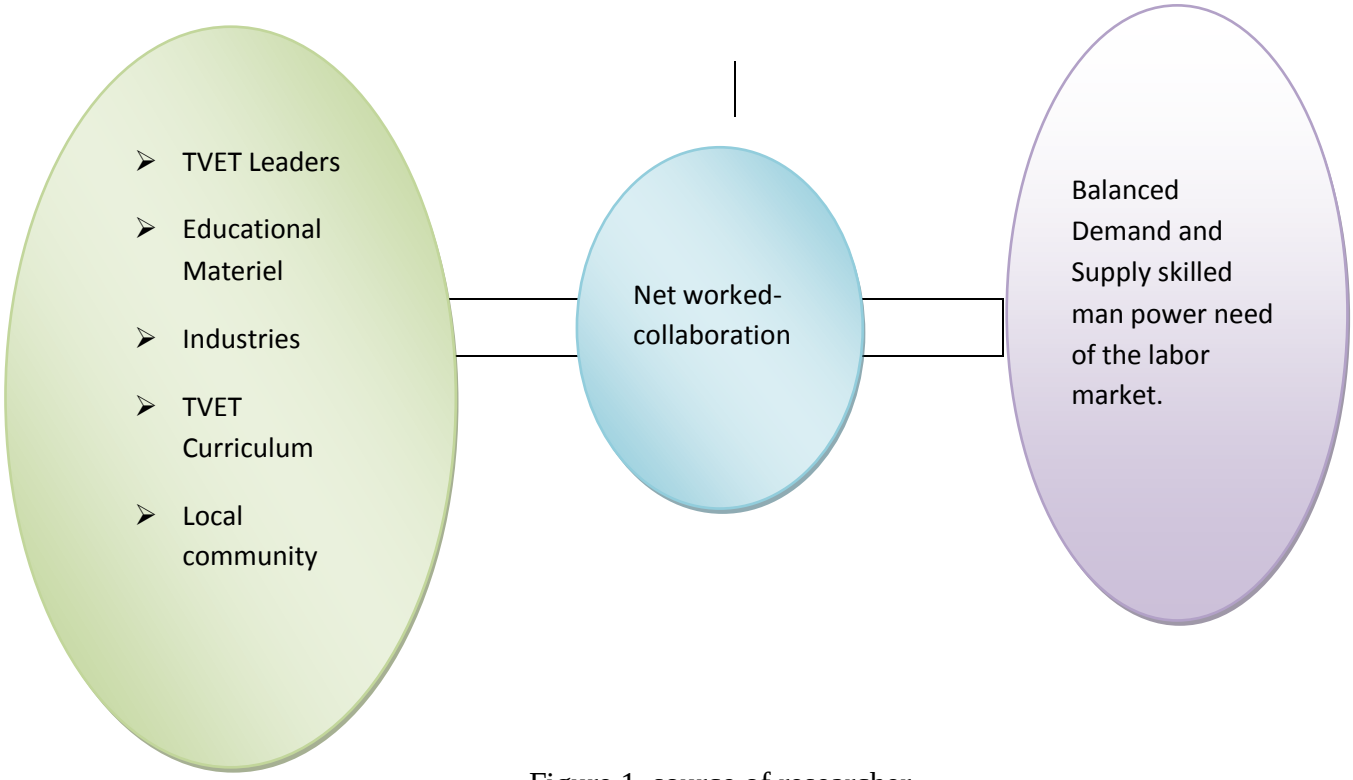

Figure 1, source of researcher

The concepts of technical and vocational education and training (TVET) plays vital roll in preparing the current and future labor market forces that could enhance economic and social development of a country .hence, many innovations and reforms are introduce in the TVET system in Ethiopia. therefore, this studies contributes the linkage between TVET polytechnic colleges and industries .the study considered varies variables which have an impact on the linkage. these are: TVET College infrastructure, TVET curriculum, local Community which are closely associated with the linkage TVETpolytechanice college and industries to balance demand and supply skilled manpower needs the labor market**.**

2.9 Back Ground and nature of Industry in Ethiopia .

The Industry Development Strategy of the country has put in place the principles that primarily focus on the promotion of agricultural-led industrialization, export led development, and expansion of labour intensive industries.

These principles are inter-dependent and inter-linked one with another. The strategy has also set the other principles that clearly stated the pivotal contribution of the private sector, the leader ship role of the government, and the integrated and coordinated participation of the public at large in nurturing the strategy. This strategy refers to those industries which are primarily involved in the production of manufactured goods. It is also tried to include other industrial classified sectors in the document other than the manufacturing industries.

To expedite our development in accordance with the direction put in place a concerted effort has to be made towards supporting strengthening of genuine developers, and by doing so compel the rent seeker to involve in the development comp. It is also necessary to support the promotion of small, medium and large scale industry operations and encourage the most of trained manpower to join the industry sector. Accordingly, some of the industry sub-sectors that are given top primary in the development effort of the Government are out lined below (Industry development strategy in Ethiopia, 2002).

2.9.1Textile and Garment Industry

Since cotton is the basic in put for the textile and garment industry the sub sector has a direct link age with the agricultural sector. As a react of this, the sub-sector flute us the basic principles of the industries development strategy. The sub-sector helps to maximize capital saving, labour intensive usage and value added on agricultural products. The sub-sector also gives chance to compete in the export market. Since the sub-sector produces yarns and fabrics the basic input of which is cotton, it is also possible to produce fabrics with manmade. Furthermore it is again possible to establish chemical industries whose products would be used as inputs by the textile industries. To expand and enhance the development of the textile and garment sub-sector, it is important and necessary to let the promoters and the operations in the cotton, textile and garment sub-sector, and the institutions that would give various support to the sub-sector in manpower training and research work incorporation and integrated manner.

In addition to this, by identifying and studying problems and constraints counterfoils by the sub-sector solutions have to be devised. It is also important to prepare development plan and introduce a system that would enable the layers in the sub-sector to know their part and to let them play their role accordingly. Moreover, to bring about fast growth there is a need

to establish consultative thrum the members of which would the actors in the sub-sector. The forum gives special attention to the development of the sector and also examines plan set for the development of the sector and oversee its implementation(industry devlopment straategy in Ethipia 2002)

2.9.2 Meat, Leather and Leather Products Industry

With regard to this industry sub-sector, there is also a need to establish a consultative forum comprising the actors in the sub-sector. Through this forum a study should be under taken that will identity problems and constraints, which hampered the development of the sub-sector. Based on the results of the study a development plan has to be mapped out that would lead to the solutions of the problems and that would indicate the roles very actor would play in the sub-sector. To get the plan realized all the concerned artic should work together and in common. Some of the major actors in the sub-sector are pastor lists investors, shouter houses, turneries, Leather and Leather goods producing factories, the Ethiopian Livestock marketing Authority and Leather and Leather goods technology Institute. The successful marketing of live cattle and meat requires improvement in the health of the chattels and establishment of modern shouter houses with the necessary standard and number in the other hand to produce leather and Leather goods with the required quality both for domestic and foreign markets, an effort should be made towards improving the existing tanneries to enable them produce at full capacity and expanding the existing ones and establishing additional new factories. Further more promote shouter house services in the cities and towns and also create enabling situation to improve the productivity of the work force operating in the sector by arranging various training programmers in the Leather and Leather products technology institute. As the Leather Producing enterprises of our country do not have their on brands they are not able to compete with foreign companies which have dominated the market through their contracted agencies by way of price, quality control and rendering other support Services. To resolve this problem, there is a need to support our enterprise sin their effort to meet the requirements of these big companies. And by all means attract and encourage these companies to buy our products. This entries to under /// study and a long term plan with which to act(industry development strategy in Ethiopia 2002).

2.9.3. Agro Processing Industries

The agro processing industries produce both for domestic and foreign markets. They are capital intensive and the major raw material for these industries are // vegetables and traits and airmen by products. For the sector to fastly and sustainable grow and develop, the agricultural products should mark an increasing growth both in quantity and kind. In order to realize the aspired growth and development in the sector a development plan that would integrate the industry and the agriculture should be in place.

The agro- processing industries by processing the cereals that are widely produced in the country could produce corn oil, methane, starch and corn flax with competitive price and quality for both //and foreign markets. Since these predicts are dominantly controlled by big companies in the international market, there is a need to create a situation in which the domestic investors could work incorporation with these foreign companies and necessary supports be given to them. To reap the benefit from the sector the domestic and foreign investors should be supported and encouraged so that they could go in to investment.

the other item that is given special focus in the Agro-industry sector is to selling of processed // which has an add value. The raw coffer which our courtly exports to the developed countries accounts only 8% of what the consumers in the developed nations pay for the coffee they drink. And it is this small amount export income that the Ethiopian coffee tamers and traders share among themselves. The remaining balance (92%) is shared among the other groups who sold the coffee by processing and adding value to it is therefore, our country to benefit much from of processed coffee, there is a need to encourage attracts foreign companies to jointly work with the domestic investors(industry development strategy in Ethiopia 2002)

2.9.4Construction Industry

The construction industry is capital intensive as well as labor intensive sector. It is also the basis for the development of other economic sectors. As a result of this the sector is one of the industry groups that is given top priority by the government.

To enhance the development of the sector there is a need to establish consultative forum where the actors in the sector would be members. There is also a need to identity

the problems encountered by the sector and there by prepare a plan that would be implemented commonly by all members of the forum.

In order to alleviate the financial problem the construction companies face with regard to purchase of machineries and shortage of working capital, a system should be devised in consultation with the financial // and put in place. Furthermore a study should be conducted as how foreign investors involve in the promotion of the construction industry. On the basis of the results of the study design and implement a plan that attar of foreign in vectors in to the country. The effort that would be exerted to develop the sector should and ought to be integrated with the overall government development plan (industry development strategy in Ethipia 2002)..

2.9.5 Strengthen Micro and Small Companies

As Micro and Small Companies are the playground for the emergence of entrepreneurs and as they have the potential to create large employment opportunity, they need to be given special attention and support for growth and development. Those Agencies established both at the Federal and Regional Level, and the municipalities at various cities and towns are expected to play a role in promoting and strengthening these companies. As many of the operators in the sector are not trained, the management is poor and the productivity is low as a result there is shortage of production. To remedy there problems based a training program should be designed and implemented(industry development strategy in Ethiopia 2002).

2.9.6 Prepare the necessary ground to ascertain sustainable industrial development

In the effort to ascertain sustainable industrial development finance and infrastructure are basic inputs that need to be available. In the strategy priority is given to the labor intensive industries and the promotion and development of these industries is expected to be in line with the economic strategy of the country ADLI. In the second phase of the implementation of the strategy a concerted effort will be made to promote capital-intensive industries. During this time knowledge and experience in industrial development will be further enriched. And the effort to make available trained and skilled manpower both at management and operational Level will also be further strengthened. The skill in quality control will again be improved. For the industries to be strengthened and

to support each other there is a need to build capacity in information communication Technology (ICT) and in Biotechnology(Pramil Krishnan, 2013).

2.10 Key reasons why TVET needs to strengthen links with industries: -

The TVET institutions are needed to strengthen links with industries to improve networking between academia and industries to create a better understanding of each other's needs and to identify how they can be met through the industry programs. The domestic industries should have link with the industries abroad to enhance indigenous standard. The TVET institutions will have the link with their home industries to determine their standard and to develop their own curriculum. With apprenticeship, the students with technical know-how will be able to get job in the Industries. The enhancement of employability & economic stability will be ultimate ambition in this regard. In most emerging economies, educators and industry operate in different worlds and often have little contact with each other. Frequently their social networks and association linkages have no overlap. Surveys often show a complete lack of understanding or respect for the interests and commitments of the other group. In countries with a tradition of central planning, a market place that creates demand for training is unknown. The practice has been for Government to provide free training in skills determined by government, independent of employer demand. The system uses curriculum created by academics with little or no understanding of industry requirements or local needs. The adoption of market responsive TVET is still an on-going process in developed countries and a very new experience in emerging economies or those moving away from a centralized, command and control dominated recent history. In these circumstances, Educators have no experience in marketing or of tailoring services to a „customers" needs. They often they see a market orientation as cheapening the values of education and giving up a sense of social responsibility in the pursuit of revenue. They have no tradition of market responsiveness and a very real fear of becoming salesmen. They are also afraid of the unknown as their orientation; experience and education have in no way prepared them for this new orientation in TVET(Pramila Krishnan,2013).

2.11 strategic partnerships between stakeholders in TVET

Getting the stakeholders involved

"Experience tends to show that genuine and equitable partnerships cannot be forced upon one party by another. The concept of partnership implies the freedom to join or leave, with willingness being shown by the various partners, clearly perceived mutual interests and benefits, a strong commitment and adequate capacity to make it work. There are certain aspects of partnerships that may require a regulatory framework and training legislation, such as certain forms of financing for training or apprenticeship. What happens to be essential, however, is that the regulatory and compulsory framework for such partnerships must be developed with the full and active participation of all the principal actors concerned" (Mitchell 1998, 11).

2.11.1 Strategic partnerships on different levels

Collaborations in TVET between public and private sector institutions (e.g. between vocational education schools and enterprises) can be formed on different levels and in a multitude of ways. However, a macro, meso, and micro level can be identified. The macro level of collaboration or partnership concerns the governmental or policy-making bodies of a TVET system within a given country. It may be argued that a strong political commitment to form partnerships in TVET is essential to establish links between the education system and the world of work (see Atchoarena 1999, 3; Mitchell 1998, 19). On the macro level, the scope of partnerships ranges from national training policies, legislation and systems created by the government, representatives of employers and workers, to business donations of material or advice. The partnerships on the macro-level can be vertical (between local partners and national institutions) or horizontal (between local or national institutions). The meso-level of partnerships describes collaborations in the sector area, e.g. donations of equipment by a large manufacturer of agricultural machinery to an agricultural school, or partnerships of different public and private organizations in the automobile sector. On the micro-level, co-operations can be formed "between individual firms and public training institutions, and may also involve local government and public and private training providers, including voluntary agencies" (Mitchell 1998, 11).

2.12 The Nature of TVET polytechnic college Linkage with Industry

In the view of Atienza (2008) as the social and economic structures of various countries in Asia and the Pacific region move from labor-intensive and industrial-based to knowledge-based and globalized economy, the role of academic institutes has been intensified more than ever. Institutes possess the optimum resource base to supply new ideas, innovations and analysis of the trends in the labor market in a holistic and pedagogic approach.

There are different forms of Industry-Institute linkages that have been started in various countries. These have likewise provided value-added approaches for public institutions to offer TVET and facilitate smooth decision making and reconciliation of different interests from the various sectors.

Evidence suggests that individuals who complete apprenticeships and traineeships are more likely to be employed, more likely to earn a higher salary and more likely to have full time rather than part time employment, than those who don't complete.(VAGO, 2014). An industrial Programme if well-coordinated should bring strong ties between training institutions and the industry (Klitkou, et al. 2007; Majumdar, 2010).Companies that collaborate with learning institutions typically have higher productivity rates than companies that do not have such collaboration(Cedefop, 2016; Malairaja&Zawdie, 2008).

In contrast, training systems are under pressure because technological change, the shortening of the product cycle and new forms of workplace organizations are changing the context in which decisions about training are made. The training has to ensure that the labour force meets the ever more stringent national and international qualification requirements (ILO, 2006). It's in this context that ILO regarded basic education as a necessary but not sufficient condition for adapting training to the challenges of economic globalization. The organization recommended promotion of partnerships with business as one of the solution to these challenges.

The rate of technological advancement seems to be faster compared to the classroom experience students are often exposed to. Teuber & Backes(2012) opine that innovation appears to be hampered in companies in which academically qualified workers only have

unskilled workers to collaborate with, because they lack the knowledge and professional language link that vocational workers provide Burns(2002) argues that while it is unlikely that a surgeon from a hundred years ago could work, walk into an operating theatre in today's world and set the work, there is no doubt that a teacher from a hundred years ago could walk into a modern classroom, pick up the chalk and carry on. Teacher being the conduit through which the stuff of learning is piped into learners, need to abreast themselves with modern technology. This can be enhanced through collaborative program between training institutions and the industry. This relationship facilitates quality experience for the students as well as contributing to the development of the workplace (Groenewald, 2004). He further argues that this collaboration should not be seen as a panacea, however but a critical reflection on these and other research capacity. Partnerships reveal significant problems in translating intentions into successful practice.ILO (1997) argues that collaboration may occur at many levels including the macro (policy) level, the meso (sectoral) level and the micro (enterprise) level.

2.13 creating favorable condition for industrial development and developmental entrepreneurs

In order to enable the developmental entrepreneurs to serve as an engine of the industrial development, a better enabling environment for the development of the private sector have to be facilitated by way of creating macroeconomic stability, modernizing the financial system, creating dependable physical infrastructure services, developing effective human resource and creating efficient civil service and judiciary system that supports development.

2.14 Other country experience towards the linkage between TVET polytechnic College and industries .

2.14.1 Industries and TVET Institutions partnership in Nigeria

While Nigerian industries are fast growing in terms of the improvement in science and technology, unprecedented demand for better graduates has been set up. However, the industry often complains that the existing technological institution's curricula fall short to tackle the practical problems in the industry. For instance, the industry expects the

technological institutions to train their future employees with the latest technology. This is because technological institutions lack proper curricula that are suitable for the industries (Ayofe, et al., 2009). This causes a gap between the technological institutions and industry that needs to be bridged so that the graduates can fit into the industries upon graduation. The industry is constantly broadening and the knowledge is increasingly becoming complex. The role of developing better curriculum in technological institution's program is important in bridging the gap between the changing technology and the industrial needs of employers. Technological institutions should make provision for conducive learning environment and industry oriented curriculum that the business community perceived as meeting their needs. Curricula are expected to be developed with the objective of producing skilled and employable workers that can easily fit into the industry without being re-trained (Ayofe, et al., 2009).

However, the quality of TVE graduates from technological institutions particularly at tertiary level has been a subject of major concern for most industries in Nigeria. Most industries complaint results from inadequate skill requirement for most cutting edge technology, low practical skill and confidence. Most Nigerian engineering graduates are exposed to several re-training programs since most of the graduates are regarded as unemployable going by the quality of instruction acquired from their various institutes (Olorunfemi & Ashaolu, 2008). The economic development of any nation depends on its level of human resources development, especially in the area of science and technology for industrialization. Nigeria is far from undergoing any landmark in technological development towards industrialization due to poor infrastructures, despite the large number of graduates from various technological institutions that have failed to impact positively on the development of industries for industrialization of its economic sector (Olorunfemi&Ashaolu, 2008).

2.14.2. Vietnam Chamber of Commerce and Industry‘s Role in Vocational Training– (German development policey,2009)

Integration into the world economy requires Vietnam to have a qualified and skilled labor force to meet the requirements of local and international labor markets. Vocational training plays a very important role in the labor market, and in the cause is socio-economic development, job generation, poverty reduction, and labor structure transformation.

Discussing the issue of vocational training, almost all enterprises agree that vocational training is currently being conducted in a wasteful manner, failing to meet requirements and attract business's involvement. Enterprises once again have to invest their own money in retraining, normally in the form of internships in the factories. In dealing with the problem, enterprises should not stand alone, but should instead closely cooperate with training institutions, providing the latter with the information on their needs and their actual production status, so that the training institution can work out appropriate training measures.

Every year, large-scale enterprises have their own training plans for their workers. PhongPhu Textile annually sends their workers to tailor-made training courses at training institutions.

Toyota Vietnam cooperates with training institutions to integrate their own required skills into the training institution's curriculum for students who directly work for the company's agents and then recruit them. This is also one of the measures for dealing with the problem when enterprises cannot directly engage in training.

It is not accidental that before Vietnam's accession to the World Trade Organization (WTO), many people argued that our enterprises and labor force were still sub-standard. As a result, some enterprises, before Vietnam's accession to the WTO, had their own plans to improve worker qualifications. The business initiative in raising workers' standards for the global playing field is seen as an encouraging signal.

Being aware of the importance of human resource qualification improvement in the context of international integration is one of the important objectives of the Employer Representative Organization. Functioning as a representative for the business community, the Vietnam Chamber of Commerce and Industry should create the linkages between enterprises and vocational training institutions by providing them with information on labour supply and demand. They should have an influential voice over policy on vocational training at the higher vocational education level and higher, participating in the process of establishing and developing regulations on vocational training(German devlopment police ,2009).

2.14.3 Linkages between Vocational Education and Industry in China –(German development policey,2009)

The Current Environment

Today, government policy continues to guide the provision of VE in China. There is a focus on being responsive to the needs of the labour market, preparing students for occupations and employment, and combining workplace practice and production with study. There is also a focus on continuous improvement. In 1994 the National Education Conference concluded that combining workplace practice and industrial production with study was a basic tenet of socialist education.

Subsequent directives repeatedly underscored the importance of combining practical work-based training with education, close linkages between schools and enterprises, and encouraging students to participate in work-based training. They also highlighted the importance of combining teaching and scientific research to further develop, promote, and apply new technologies in training and in community service.

In 2002, the State Council also emphasized the close connection between vocational skills training and professional and vocational ethics. The combination of industrial production with study is essential if VE is to adapt to the changing structure of the Chinese economy. It must develop appropriate strategies to meet the needs of industrialization, and to accelerate and increase the development of skilled workers in order to meet these demands. Its focus on reforms, which will enable it to meet the needs of ever-changing occupations and labour markets, is of great significance. It is clear that it is this focus that will open up diverse pathways to employment, and increase student access to different jobs. In addition, a focus on training that is responsive to the changing structure of the economy will also enable the re-allocation and adjustment of human resources. This means that existing workers in the towns and cities, and workers in the rural labor force, can upgrade their skills to move into alternative jobs, thus helping to alleviate any difficult social problems.

In recent years, local governments, administration departments, and VE schools have faithfully implemented the national government's requirements regarding the combination of work and study, and collaboration between industry and education. They have promoted these and other VE reforms, and have consequently accumulated considerable

experience. At the same time, strategies for the further development of VE have been incorporated into local economic and community development plans, and in the restructuring of local industries. These strategies have laid down a solid foundation for the development of stronger linkages between industry and VE.

For example, the Tianjin government has declared that by 2006 it will have in place a high quality VE system, which is of a reasonable size, appropriate structure, high standard, and coordinated with the general education system. It will also have close linkages with leading industries in the region, and provide training which is responsive to the needs of the economy.

In recent years, the Jiangsu and Zhejiang provinces have also been promoting the collaboration of the economy, science, and education in their regions. They have implemented an integrative approach to basic education, vocational and technical education, and adult education. They have also focused on human resource training as a way to build their advanced manufacturing industries. They have promoted the view that the primary resource for success lay in ‚skilled talents'. They have also asked VE teachers to further liberate their minds, and to implement creative training solutions for the development of large cohorts of highly skilled managers and administrative workers, as well as intermediate-level and senior-level technicians and skilled workers. National and local governments are also fully dependent on industries to assist them in analyzing requirements for human resources and VE teaching. For example, in 1999, the Ministry of Education set up 33 industry-VE supervision committees. These committees played an important role in reforming curriculum and developing teaching materials according to the "Action Plan for Education towards the 21st Century". Provincial governments and national ministries of industry have also made important contributions to VE reform, and have established consultancy organizations to provide VE supervision. So far, China has achieved considerable success in developing closer ties between VE and industry. The following models of VE-industry collaboration can improve our knowledge of the unique way that China has gone about developing these linkages (German development strategy, 2009).

2.15 Steps for The Criteria guarantee the process of constantly Developing technical colleges .

that it provides industry with the quality that it requires. In order to meet the requirements for certification and to be approved as Technical college, all the criteria must be fulfilled (the council of Swedish industry,2018).

2.15.1. Regional perspective

Technical college has a regional perspective and is a common resource for the municipalities and industrial companies concerned. Municipalities cooperate locally through agreements.

2.15.2. Educational Infrastructure

At Technical college specialized technology-oriented education and training is provided, for the needs of the industry, at upper secondary as well as post-secondary level. technical college offers upper secondary school students academically oriented programmers in combination with technology-oriented vocational programmers. Cooperation also takes place between different forms of education, between different players and between adults and young people. Clear profile the educational activities have a clear profile and are linked to the needs of the regional industrial companies(the council of Swedish industry,2018).

2.15.3 Collaboration Working Life

At Technical college there is collaboration between different providers of education and working life. There is a regional steering group and several local steering groups, with company representatives in the majority.

2.15.4 Quality Assurance

The regional steering group is responsible for ensuring that all the criteria are fulfilled and for guaranteeing work processes, the quality of the education and developments at technical college.

2.15.5 A Cretive and Stimulating Working Environment

At Technical college there is a down-to-earth learning environment which stimulates creativity and involve-ment and which attracts both female and male student.

2.15.6. Machinery and Equipment

The machinery and equipment are of high quality and should provide the students with scope for learning new technology.

2.15.7 Coherent study days

Technical college-certified courses are characterized by coherent study schedules and staffing that reflects working life.

2.15.8 Team work Integration Between Subject

At Technical college teachers work in a team and assume joint responsibility for the learning and development of the students. Considerable weight is given to the students' personal development and ability to work in groups. The aim is coherent and well-thought-out education which is based on an active method of working by the pupils. The teaching is based on integration between practical and theoretical subject (the council of Swedish industry,2018).

2.15.9Learning At Work place

The companies offer the students workplace training which, coupled with effective supervision, provides them with a solid foundation of vocational knowledge. Students also have an opportunity to carry out project work and to obtain practical experience and summer jobs (the council of Swedish industry,2018).

Chapter Three

3. Research Design and Methodology

This sub section presents the data collection instruments used, the sampling techniques, and the procedure of the study and method of data analysis.

3.1. Research Methodology

in this study, descriptive survey design was employed because it is more appropriate to collect divers data relatively large number of respondent .According to Leech N, OnwuegbuzieA (2008), mixed methods research represents research that involves collecting, analyzing, and interpreting quantitative and qualitative data in a single study or in a series of studies that investigate the same underlying phenomenon. Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems that either approach alone. Creswell and Plano Clark (2007: 5) . Thus, in light of the above facts the method which enable to the student researcher to investigate the current practice and challenges of the industry linkage of TVET polytechnic College in Addis Ababa; challenges and prospects using mixed methods and representative sample as a sources of study to avoid exposing to biases.

3.2 Sources of Data

In this study, both the primary and secondary sources were used to get adequate information about the challenges and prospects of linkage of industry and TVET Polytechnic College in Addis Ababa. In order to get firsthand information primary data were collected from trainees, trainers ,industries or(technique -head) institutions cooperating in providing work place learning practice program (workplace supervisors and assessor) and assigned supervisors, dean of the selected TVET Colleges, vocational counselor and department heads. The secondary sources were used to strengthen the primary sources. Books, journals, and

documents related to industry linkage of polytechnic college practice and workplace training were reviewed.

3.3 Sample size and sample technique

There are six Government TVET polytechnic Colleges in Addis Ababa City Administration. Out of these training colleges, two of them (33.3%) were selected for the study using purposive sampling the reasons for selecting these two TVET poly-technique College colleges were due to their better experiences in offering training and educational programs at college level and two Industries were have a better linkage in cooperative training. This includes: Nefas- silk TVET Polytechnic College and Tegbare-id TVET polytechnic College. The sampled colleges had nine departments with 50 occupational areas of training. Among these 3(33.3%) departments with different streams Auto-Engine, General Mechanic, electrical industrial Auto machinery technology controlling. were being included on the basis of sampling. Purposive sampling techniques were employed to incorporate these occupational areas. Therefore, Identification of relevant sample size was done in accordance with Gary and Air Asian (2003) as guide line. The basic rule behind Gary and AirAisan guide line is to determine appropriate number of participants a sample size the guide line contain in general, if the population is large the small percentage needed to get a representative sample, which is helpful to handle the data easily, therefore, the guide line indicates, if the population sample size is around 500 (50%) should be sampled from the total population. The total population of the study was 532.Therefore, it is appropriate to take 50% of the total population. The total numbers of trainers which train the selected department were 81among these 70(81.4%) were taken as sample population in each stream into stratu.30 from Nefas –silk and 40 from Tegbare-id polytechnic College of Trainers are selected. The total numbers of trainees in the sampled streams were 421. Out of these 212 (50%) were taken as sample population in each stream into stratum form level IV and level V. According to Leedey and Ellis (1989), to secure proportional representatives of the sampled institutions, proportional stratified sampling is appropriate. Because the population strata appeared in different proportions . To pick up the number of respondents under each stratum, simple random sampling was used. In addition to this, this study was conducted Derba and Ethio-Cement factory were used among

there 23(50%) were used.7 from Derba 8fromEthio –cement factory technique heads department were used .

Table 1 Target population and samples of the study

No	Name of TVET poly technic colleges	Dean		TVET Counselor		Trainees		Department heads		Trainers		Industries Supervisor & techanuiq- head			
												Name of industries			
												Ethiocement		Derebacement	
		Population	sample	Population	Sample	Population	Sample	population	Sample	Population	Sample	Population	sample	Population	sample
1	Nefassilk polytechnic college	2	1	2	1	208	104	3	1	80	40	11	8	12	7
2	Tegbare-id polytechnic college	2	1	2	1	216	108	3	1	82	41				
Total		4	2	4	2	224	212	6	2	162	81	11	8	12	7
Sampling technic		Simple random		Simple random		Simple random		Simple random		Simple random		availability		Simple random	

3.4 Instruments of Data Collection

Questioner was used to gather data from trainees, trainers, and techanic -heads. interview was conducted with deans, trainees ,trainer ,techanic-heads, observation checklist was used to observe the availability of facilities , infrastructure, both TVET polytechnic colleges and industries were conducted in order to get adequate information about linkage.

3.5. Instruments of Data Collection Pilot Testing

Pilot study was conducted in meserak TVET polytechnic College to check the reliability of items prior to the final administration of the questionnaires to all respondents. The pilot test was conducted to secure the validity and reliability of the instruments with the objective of checking whether or not the items included in the instrument can enable the researcher to gather relevant information. Besides, the purpose of pilot testing was to make necessary amendment so as to correct confusing and ambiguous questions by using cronbachi's alpa software package were tested questioner which is the result show 0.8. (sample colleges is not included).

3.6 Data Analysis

The data was that collected analyzed and interpreted both qualitatively and quantitatively. And the data were obtained through questionnaire by using likert scale will be analyzed using percentage , statistics mean average used . While the data was obtained through interview, observation, open ended questions and document review were analyzed qualitatively through descriptive narration for the purpose of triangulation.

CHAPTER FOUR

4. Presentation ,Analysis,and Interpretation of Data

This chapter of the study consists of two parts. The first part deals with the respondents' backgrounds, while the second part deals with presentation and interpretation of the data collected through questionnaires, interview and observation. Both primary and secondary sources were utilized to obtain adequate data. As stated in chapter three of the study, questionnaires were distributed for 212 trainees, for 81 trainer's 23 technical heads. From total questionnaires which distributed to the trainees, trainers, and technique heads 192(75.29%), 70(86.42%), and15(65.22%) respectively have been returned and analyzed. The data obtained through interview with Deans, Trainers, department Technique- Heads and also concerned body for the linkage industry and TVET Polytechnic College in Addis Ababa were analyzed qualitatively. Moreover, relevant information obtained from document study was also incorporated in this chapter. Based on the data gathered through all instruments, the following results were found. In sum, out of 316 questionnaires, 277, (87.7%) were used for the study.

4.1.1Background Information about the Respondents

In order to maximize diversity that enables the researcher to obtain ample and reliable information, three categories of respondents were involved in the study. They are key respondents for the TVET polytechnic College and Industry linkage . The first group was trainees. The second category includes instructor/ trainers,(Dean, Vocational Counselor, Training coordinator, and Department heads) and the third were Industry technique department heads.

Table.1: Characteristics of the Rrespondent trainees in the sample polytechnic Colleges.

Name of TVET polytechnic college		Field of studies																	
		Auto- Engine						General mechanic						Electric Ind.out machinery C. technology					
		Level-IV			Level-V			Level-IV			Level-V			Level-IV			Level-V		
		M	F	T	M	F	T	m	F	T	M	F	T	m	F	T	M	F	T
Nefas - silk		10	2	12	9	-	9	10	3	13	12	-	12	15	-	15	22	5	27
Tegibare-id		24	-	24	8	3	11	25	-	25	10	3	13	11	-	11	11	9	20
Tot al	No	34	2	36	16	3	20	35	3	38	22	3	25	26	-	26	33	14	47
	%	94.4	5.6	100	80	15	100	92.1	7.9	100	88	12	100	100	-	100	70.2	29.8	100

The above Table 1, out of the 192 respondents. About 88 (45.83%) were from Nefas Silk TVET Polytechnic college, while 104 (54.16%) of them were from Tegibare-id TVET polytechnic College. Among the total respondents gender from Nefas Silk, about 78 (88.6)the male and the reaming 10 (11.4%) female. From Tegibare-id, 89 (85.58%) where meal, while 12(11.54) were female, This result shows less number of woman(female trainees) participation for in both Colleges. Therefore, this analyzed result shows it needs some affirmative action from the concerning body the vocational TVET polytechnic Colleges for female participation. Among the total respondents from level IV were 40(45.45%), while from Level V 48 (54.55%). were from Nefas Silk TVET polytechnic College and 60(57.69%) Tegibare-id from Level IV, whereas, 44(42.30%) were from Level V. From this result it can be seen THE researcher understand from the pattern of the distribution on the table above, from both Polytechnic colleges that the number of Level IV trainees was Low when compared to Level V trainees.

Table.2 Chractresitcs of trainees Respondent .

Name of TVET Polytechnic colleges		Age of trainees					
		Level-IV			Level-V		
		20-30	31-40	41	20-30	31-40	41
Tegbare-id		54	7	-	40	3	-
Nefas silk		34	9	-	38	7	-
Total	No	88	16	-	78	10	
	%	45.8	8.3	-	40.63	5.21	

As indicated in table 2, age of the respondents from Tegbare-id TVET Polytechnic College shows that 54(51.9%) were between 20 and 30 from the total quantity, while 7 (6.73%)were from between 31 and 40 in Level IV, while level –V 40(38.5%) between 20and30 and 3(2.9%)in were between 31and40 from the total quantity . From Nefas silk between 20 and 30 of the total quantity are 34(38.64%), while between 31and 40, 9(10.23%) age of the respondent Level –IV. While Level –V are between 20and30, being 38(43.2%) and those between 31and40,7(7.9%)age of the respondents both Nefas Silk and Tegibare –id polytechnic College the there are no above 41years old . so they are categorized under middle age level of trainees in both polytechnic college.

Table 3: Characteristics of the Rrespondents' polytechnic Ccolleges and Industries(Technique heads and trainers).

Name of TVET polytechnic college & Industries	Respondents	Sex			Age			Experience in a year				Level of qualification		
		M	F	T	20-30	31-40	Above 41	Below 5	5-10	11-15	Above 15	Dipolma	Degree	above MA
Nefas-Silk	Trainers	26	4	30	-	20	10	13	9	3	5	-	27	3
Tegbare-id	Trainers	33	7	40	-	27	13	10	12	13	5	-	36	4
Ethio Cement	Technique heads	8	-	8	3	3	2	-	2	3	3	-	8	-
Derba Cement	Technique heads	6	1	7	1	3	3	-	4	2	1	-	7	-
Total	No	73	12	85	4	53	28	23	27	21	14	-	78	7
	%	85.9	14.11	100	4.7	62.4	32.9	27.1	31.8	24.7	16.5	-	91.8	8.2

As shown in Table 3, out of the total respondents of Nefas silk TVET Polytechnic College, 26 (86.7%) were male and 4 (13.3%) were female, and in Tegibare-id polytechnic college 33(82.5%) were male and 7(17.5%) were female . In terms of age structure, out of the total respondents, 20 (66.7%) of them were between 31 and 40 years of age, 10 (33.3%) were above 41 years of old in Nefas Silk polytechnic College, whereas 27(67.5%) trainers in Tegibare–id polytechnic Colleges between 31 and 40 years and 13(43.3%) trainers are above 41 years of age . Under the above table analyzing the age between 20 up to 30 not found in both polytechnic College teachers /Trainer.

As indicated in the above table ,the work experience of 13(43.3%) trainers in NefasSilk polytechnic College is below 5 years ,while the work experience of 9(30%)Trainers is between 5and 10 years, and the work experience of 3(10%)Trainers is between 11and 15 years, and that the work experience of the remaining 5(12.5%)Trainers is above 15 years, whereas, the work experience of 10(25%) Trainers in Tegibare-id polytechnic College 5 years ,and the work experience of 12(30%) Trainers is between 5 and 10 years ,while the work experience of 13(32.5%) trainers is between 11and 15 years ,and the remaining 5(12.5%) Trainers is above 15 years of work experience**.** As for the the level of qualification of Trainer in Nfas Silk polyTechnic College ,the result shows 27 (90%) of them are degree holders and 3(10%)have MA educational background qualification. The same as Tegibar-id 36(90%) have BA degree while 4(10%) MA qualification of educational back ground but both Polytechnic Colleges have no Diploma level of qualification. this result tells Trainers both poly- Technique colleges have enough qualification of Education.

As depicted in Table 3, and in view of gender qualification of the total technique heads in Ethio Cement Factory,8(100%) are meal , whereas in Derba cement 7(100%) are male .This shows female participation in both Cement industries technical heads position is less than expected. As this Table shows ,the age of 3(37.7%) respondents in Ethio- Cement from 20 up to30,while the age others 3 (37.7%) Respondents is from 31 up to 40 and the remaining 2(25%) are above 41 years of age , whereas in Derba – Cement factory, the age of 1(14.3%) Respondents is from 20 up to 30 ,while 3(42.9%) are above 41 years of old.The other issue referred to in the above Table is work experience ,that 2(25%)Respondents have a work experience 5and 10,whereas3(37.5%) of them have between 11 and 15 years of work experience ,and the remaining 3(37.3%) have above 15 years of work experience in Ethio-Cement. When we come to Derba- Cement Factory ,4(57.1%) Respondents have 5 and 10 years of experience ,2(28.6%) of them have 11 and 15 years of experience and 1(14.3%) has above 15years of work experience. This analysis shows both industries Ethio and Derba Cement factories have good work experience. And the other point from the Table, level of work experience in Technical -heads 8(100%) having BA degree in Ethio Cement factor, whereas Derba cement 7(100%) and also have the same educational background which is BA degree, but MA and Diploma which is not available in both Industries when we look at the age of the technique heads all are found in middle age level .

4.2 TVET polytechnic colleges and industries Linkage.

Table 4, the necessity of industry linkage response

Strongly disagree=1, Disagree=2, a gree=3 Undecided =4 ,Strongly agree=5

S.N	Item	Respondents		Scale with value					Statistics	
				1	2	3	4	5	Mean	Av.mean
1	The institute management supports industry institute linkage.	Trainees	F	50	45	33	29	35	2.8	1.7
			%	26.04	23.24	17.2	15.10	18.23		
		Trainers	F	25	15	10	6	14	0.93	
			%	35.71	21.43	14.3	8.6	20		
		Technique-Heads	F	3	-	2	3	7	1.3	
			%	20	-	13.33	20	46.7		
2	MOST Industry are willing to accepts trainees for apparent ship .	Trainees	F	60	49	43	25	15	2.4	1.2
			%	31.3	25.52	22.4	13.02	7.81		
		Trainer	F	35	8	13	10	4	0.8	
			%	50	11.43	18.6	14.3	5.71		
		Technique-heads	F	3	5	3	4	-	0.4	
			%	20	33.33	20	26.7	-		

With regard to item 1 of the Table 4, the respondents were asked to express their level of agreement Accordingly, 50(26.04%) trainees and 25(35.71%) trainers" disagreed " on the institute management saying that it does not support Industry institute linkage, but 7(46.7%) of the total technique-heads "strongly agreed" on this issue. The statistical data result shows that the

average mean value is less than the expected mean (3.00). Thus, based on the results, it is possible to say that there no sufficient and appropriate program for the TVET industry linkage.

Regarding the above issue ,the researcher conducted an interview session with one of selected Industry Department- heads (Department-head-1):

He states that a climate of openness and trust will help to foster good working relationships and strengthen the team abilities through cooperation and mutual support. The manager can do this through regular open communication with the team, encouraging individual development, involving everyone in decisions as appropriate especially in cooperative training(February 22, 2018)

From the above statement it is possible to see that there is an openness gap between TVET and the industry. Therefore, these gaps need to be bridged.

The majority of the respondents, 60 (31.25%)of the trainees,35(50%) of the trainers "disagreed" and 4(26.7) of the technique-heads regarding item 2 in the same Table " agreed" on most industries are willingness to accept trainees for apprentship(cooperative training). it indicate the involvement of industry for practical training availability is less for skilled man power development .There should be formal commitment from stake holders and concerned body.

Concerning the above issue TVET proclamation of Ethiopia (391/2004) states that Partner Enterprises shall receive apprentices and provide apprenticeship training to trainees, assign apprentices to places appropriate to their training, and ensure that apprentices acquire proper work experience. The Enterprises are also obliged to evaluate, and to forward their opinion on the apprentices' performance to the concerned organ. The Ministry of Education (2010) claimed that Enterprises were involved and benefited from cooperative training.

Nevertheless, regarding this issue ,the researcher conducted an interview session with one of the respondents from TVET Deans(Dean-1)said :

He stated that, the cooperative training is not practiced as envisaged in the TVET system (February1,2018).

The researcher was also able to observe that the Industry provide apprentship (coopertive-tarining) for trainees but the trainees during stay in the industry shop are not doing or working exactly what they are supposed to do in relation to the filed. Rather, they are forced to work .this indicated that the trainees must also have an Industry supervisor who follows-up and report to the polytechnic Colleges .

4.3 Availability of the necessary infrastructure in the TVET polytechnic Colleges.

Table 5. Respondents' views on the availability of infrastructure .

Strongly disagree=1, Disagree=2, Undecided=3, Agree=4 , Strongly agree=5

Sn	Item	Respondents		Scale with value					Statistics	
				1	2	3	4	5	Mean	Ave.mean
1	There are adequate Lab materials and equipment in TVET poly technic college.	Trainees	F	65	23	34	30	40	2.8	1.33
			%	33.9	11.9	17.7	15.63	20.83		
		Trainers	F	20	15	10	13	12	1	
			%	28.6	21.43	14.3	18.6	17.14		
		Technique-heads	F	7	2	2	1	3	0.2	
			%	46.7	13.33	13.33	6.7	20		
2	TVET colleges and Industries closely work together in the areas of workshop and seminar.	Trainees	F	55	30	30	35	42	2.73	1.25
			%	28.64	15.63	15.63	18.23	21.9		
		Trainers	F	33	12	11	5	9	0.81	
			%	47.14	17.14	15.71	7.14	12.9		
		Technique-heads	F	5	3	2	2	3	0.2	
			%	33.33	20	13.33	13.33	20		
3	Seminar field trips & excursions should be incorporated in to TVET curriculum.	Trainees	F	71	28	32	36	25	2.6	1.2
			%	37	14.6	16.7	18.8	13.02		
		Trainers	F	38	12	10	10	-	0.64	
			%	54.3	17.14	14.3	14.3	-		
		Technique-heads	F	3	4	3	2	3	0.22	
			%	20	26.7	20	13.3	20		

To produce competent graduates of TVET, class rooms, workshops, machineries and learning materials are some of the necessary inputs to run program. Without these inputs, the expected achievement will not be successful. Concerning sufficient and timely supply of teaching and learning materials (see item 1 of Table 5) and the materials being up to date, relevant and sufficient. The majority of respondents, 65 (33.9%) trainees, 20(28.57%) trainers and 7 (46.7%) technique -head were rated "disagreed" that there was no sufficient supply of teaching and learning materials on time. The average mean value (1.33) also indicates that it is less than the expected mean value (3.00). This implies the expected achievement will not be successful and also that there are shortages of materials that affect the teaching learning process.

Regarding this issue ,the researcher conducted an interview session with one of the regional TVET experts Councilors (counclor-1) who reported :

The shortage in the supply of teaching and learning materials shortage is a serious problem the college faced .This is due to the fact that they are expensive materials that they need adequate financial support and the purchasing system is not on time (March 5, 2018).

Likewise ,an interview session was also held with the Deans of college respondent expressed his views as follows (Dean-2)said:

In addition to lack of adequate fund there is poor collaborative effort of all stakeholders for the materials to be supplied on time (March 8,2018).

From these, it could safely be concluded that lack of adequate material and machineries necessary for training process and practice are not well matched with the given course of competency. This result indicates that there is shortage of materials.

Similarly, item 2 of same Table above, the majority of trainee's trainers and technique head "Strongly disagreed" on TVET College and Industry work closely together in the area of workshop seminar. The statics average mean value (1.25) also indicates that it less than the expected mean value (3.00). There wide gap between the linkage presenting workshop and seminar Industry and TVET polytechnic College that the result tells us.

Regarding this issue , the researcher conducted an interview session with one of the TVET Trainers (trainer- 1)said:

The term ‘partnership’ has gradually emerged as a new form of governance. In the field of technical and vocational education and training (TVET) it describes co-ordination mechanisms at the system level, as well as co-operation between schools and businesses at institutional level. Partnerships may involve a wide range of actors including social partners, NGOs, community groups, or private providers (March12,2018).

Similarly, item 3 of same Table above, the majority of trainees 71 (37%) ,38(54.3%)trainer “strongly disagreed” and also technique heads 4 (26.7%)”disagreed” on seminar filed and trip and excursion should be incorporated in the TVET curriculum. This result analysis shows the needed work shop for curriculum stakeholder new idea create in order to reforming problem-solving capacity building as an input for curriculum in order to fulfill the gap by revising the curriculum within three and four years because there is technological change by the involvement of professionals and any concerned body..

According to Finch and Crunkilton(1999), to develop a curriculum that will provide the required competences requires an institution or a competent authority to pass through a series of stages. These stages include planning, conducting situation analysis, formulation of learning outcomes, assessment criteria, teaching and learning strategies for achieving the curriculum goals and objectives, modularization and semesterization of curriculum, and approval and validation of curricula. TVET curriculum design gives more emphasis to the students and community needs and substantive outcomes. Its development should reflect the training needs of the job market. TVET curriculum focuses not only on the educational process, but also on the tangible results of the process. This is one of the reasons that make TVET curriculum distinctive from other curricular areas. As a result, TVET curriculum planners must have a sound understanding of curriculum development process.

Table 6. the TVET Teaching Method and Industry willingness to support the program.

Strongly disagree=1, Disagree=2, Undecided=3,Agree=4 ,Strongly agree=5

SN	Items	Respondents		Scale with value					Statistics	
				1	2	3	4	5	Mean	av.mean
1	The TVET trainees apply teaching method that enhance competency .	Trainees	F	33	47	45	28	39	2.94	1.4
			%	17.2	24.5	23.44	14.6	20.31		
		Trainers	F	15	20	13	12	10	1	
			%	21.43	28.6	18.6	17.14	14.3		
		Techniques-heads	F	3	4	5	2	1	0.2	
			%	20	26.7	33.33	13.33	6.7		
2	Industries show willingness to support the TVET program.	Trainees	F	38	55	42	35	22	2.7	1.31
			%	19.8	28.7	22	18.23	11.46		
		Trainers	F	13	20	15	14	8	1.01	
			%	18.6	28.5	21.43	20	11.43		
		Technique-heads	F	5	4	3	1	2	0.21	
			%	33.33	26.7	2o	6.7	13.33		

As shown in Table 6 , the majority of respondents concerning item1, “disagreed “ trainees and trainers but technique heads “undesided” on the TVET trainees applying teaching method that enhance competency. The teaching methods in TVET institutions have not succeeded in impacting positively the practical skills acquisition of graduates of TVET institutions.

With regard to the above point Oduola, Olorufemi & Ashaolu, (2008),These methods of instruction include: the traditional lecture method based on sound theoretical background, group discussions, field trips and Students Industrial Work Experience Scheme (SIWES). However, modifications of these approaches are very imperative to meet the current industry challenges.

Regarding item 2 of the same Table, the majority of the respondents, 55 (28.7%) trainees, 20(28.71%) and trainers "disagreed" while 5 (33.33%) technique heads "strongly disagreed" on Industry un willingness to support the TVET program. The statistical data result as well shows that the average mean value (1.31) is less than the expected mean value (3.0). This implies that the industries do not support the trainees for cooperative trading.

According to Ayofe, et al.,(2009),The industry often complains that the existing technological institution's curricula fall short to tackle the practical problems in the industry. For instance, the industry expects the technological institutions to train their future employees with the latest technology. This is because technological institutions lack proper curricula that are suitable for the industries .

Concerning of the above issue, the researcher conducted an interview session with the trainer. Accordingly one of trainers (trainer- 2) said:

Efforts to engage principals in further discussion regarding best practice and the advantages of vocational education need to be supported by appropriate funding and reporting regimes. Without such support professional development activities and forums will only lead to frustration(March 8,2018).

The researcher observation from the above issue concluded that ,there is no Create incentives on land, taxes, training equipment, etc. to encourage enterprises Industries to support and establish vocational training sectors.

4.4 Issue of safety and Memorandum of Agreement (MOA).

Table 7, safety and other issues of Memorandum of Agreement respondent.

Strongly disagree=1, Disagree=2, Undecided=3,Agree=4 ,Strongly agree=5

SN	Item	Respondents		Scale with value					Statistics	
				1	2	3	4	5	Mean	Av. mean
1	Industries provide insurance converge for student during stay.	Trainees	F	75	40	32	23	22	2.4	1.03
			%	39.1	20.83	16.7	11.99	11.5		
		Trainers	F	33	23	4	6	4	0.7	
			%	47.14	32.9	5.71	8.6	5.71		
		Techaniuqe-heads	F	4	4	3	4	-	0.2	
			%	26.7	26.7	20	26.7	-		
2	There is Memorandum of Agreement (MOA) between Industries and the Colleges.	Trainees	F	65	75	24	10	18	2.2	1.2
			%	33.9	39.00	12.5	5.2	9.4		
		Trainers	F	15	5	-	20	30	1.33	
			%	21.43	7.14	-	28.6	42.9		
		Technique-heads	F	5	4	4	2	-	0.2	
			%	33.33	26.7	26.7	13.3	-		

As indicated in Table 7 , Item1, the majority of the respondents 75 (39.1%) trainees, 33 (17.2%) trainers' and 4 (26.7%) technique-head "strongly disagreed" on industry providing insurance coverage for students during stay .

The student researcher observed that, trainees during cooperative training or apprentship in industries did not have coverage of any insurance from the company.

As shown in the same table item 2 Majority of the respondents 75(39%) trainees and 8(57.1%) technique-head "disagreed" but the 30(42.9%) trainers "strongly agreed" on memorandum of agreement (MOA) between industries and the college.

Regarding to this issue, an interview was made with both Department -heads of the sampled colleges (Head,- 2))said:

They pointed out that" one of the challenges for cooperative training or work place learning is industries' unwillingness to sign Memorandum of Agreement (MOA) with the college. This is because of their knowledge gap on this issue but few of the industries are working together". This Cooperation between the two major players, Industries and Vocational Schools, is based on the dual system of vocational education and training, hence, each pursuing a specified goal to successfully accomplish the training (March 19,2018).

According to MOE (2007), A Memorandum of Agreement (MOA) or its equivalent, entered in to by the TVET institutions and the partner establishment, which spells out the terms and conditions of the training partnership (MOE, 2007). The Training Contract Document between enterprise and trainee, Stated that enterprise participating in cooperative training will complete a training contract with each trainee. The Training Contract Document should at least specify name of cooperating parties; the training plan, time table and purpose of the cooperative training in particular in the form of occupational activity for which cooperative training is to be provided.

Regarding the issue, the researcher safely concluded that if there is a Memorandum of Agreement (MOA) approved by the federal Minster for TVET, the applicability of the action is very minimum.In general, the gap is wide between the two concerned bodies which is impossible

in order to create such institutional linkage working together especially in cooperative training (apprentship), on – job training and other issues.

4.5 Working relationship among TVET polytechnic Colleges ,Companies and the local Community.

Table 8 Respondents' views on the working relationships among TVET poly-technique Colleges Companies and Local community.

Strongly disagree = 1, Disagree = 2, Undecided= 3, Agree = 4 Strongly agree =5

s.n	Item	Respondents	Scale with value						Statistics	
				1	2	3	4	5	Mean	ave.mean
1	Industries are visited by TVET managers.	Trainees	F	43	73	35	25	16	2.5	1.22
			%	22.4	38	18.23	13	8.33		
		Trainers	F	13	24	12	11	10	0.99	
			%	18.6	34.3	17.14	15.71	14.3		
		Techaniuqe-heads	F	3	7	2	3	-	0.2	
			%	20	46.7	13.33	20			
2	The companies and TVET colleges work with local communities.	Trainees	F	50	63	23	31	25	2.6	1.2
			%	26.0	32.81	12	16.2	13.02		
		Trainers	F	13	44	11	2		0.74	
			%	18.6	62.9	15.71	2.9			
		Technique-heads	F	5	4	3	3	-	0.2	
			%	33.33	26.7	20	20			

Item 1, Table 8, the majority of respondents 73 (38%) of the trainees, 24(34.3%) of the trainers and 7 (46.7%) technique-head" disagreed "on the Industry visited by TVET manager .Similarly the arithmetic mean indicates that the average mean value 1.22 is less than the expected mean (3.00). implying the absence of there is no management interrelationship between TVET Polytechnic colleges and industries.

The student researcher observed that, there is no such kind experience management of sharing between polytechnic colleges and industries.

In The same table of item 2, majority of the respondents, that is 50(26%) trainees and 44(62.9%) trainer "disagreed", while 5(33.33%) technique- head "strongly disagreed" on the companies and TVET poly-Technique College working with local community . The average mean value (1.33) also indicates that it is less than the expected mean value (3.00).

Regarding this issue ,the researcher conducted an interview session with one of the TVET trainers (trainer -3)said:

Vocational schools and enterprises are not very well networked with the local Community or labour market need in order to solve such kinds of problem and also inters of working together (march13,2018).

From this ,it could be safely concluded that there is a gap between TVET Polytechnic college and local community for the integration work together in the area of addressing local communities problem solving capacity and other issues .

Table 9, Respondents' views on issue of recognition.

Strongly disagree = 1, Disagree = 2, Undecided= 3, Agree = 4 Strongly agree =5

s.n	Item	Respondents		Scale with value					Statstistic	
				1	2	3	4	5	Mean	
1	The polytechnic college gives recognition to companies which host trainees.	Trainees	F	60	43	17	16	56	2.9	1.3
			%	31.2	22.4	8.9	8.33	29.2		
		Trainers	F	29	24	5	11	1	0.73	
			%	41.43	34.3	7.14	15.71	1.43		
		Techniques -heads	F	5	-	3	4	3	0.3	
			%	33.3	-	20	26.7	20		
2	Industries evaluate trainees based on occupational standard and unit of competency	Trainees	F	63	35	34	35	25	3.4	1.2
			%	32.81	18.23	17.7	18.23	13		
		Trainers	F	10	19	5	31	5	1.1	
			%	14.3	27.14	7.14	44.3	7.14		
		Technique-heads	F	7	-	5	-	3	0.2	
			%	46.7	-	33.33	-	20		
3	Trainees lack the necessary industry based technological skills.	Trainees	F	65	25	45	27	30	2.65	1.14
			%	33.85	13.02	23.44	14.06	15.63		
		Trainers	F	35	24	10	1	-	0.61	
			%	50	34.3	14.3	1.43	-		

		Technique-heads	F	7	4	-	4	-	0.16	
			%	46.7	26.7	-	26.7			
4	The poly technic has established platform for external partnership involvement the information system related to labour market.	Trainees	F	65	45	24	34	24	2.52	1.13
			%	33.85	23.44	12.5	17.7	12.5		
		Trainers	F	33	14	13	10	-	0.73	
			%	47.14	20	18.57	14.3			
		Technique –heads	F	8	2	5	-	-	0.14	
			%	53.33	13.33	33.33				

As it is illustrated in Table 9, regarding item 1, out of the 56(29.2%)trainees, 29(41.43%) trainer, and 5(33.3) technique heads " strongly disagreed" the statement that the polytechnic College gives recognition to Companies hosting trainees .in order to establishment strong relationship Renewing vocational training methods with the application of advanced technology and techniques in teaching to promote student activity by increasing practice session times, encouraging student self-training; combining vocational training with practice, and standardizing vocational skills. The statics average mean value (1.33) also indicates that it is less than the expected mean value (3.00).

Regarding the issue, the researcher conducted an interview session with one of the TVET technique heads(technique head-2) said:

An accreditation system has been established, the national skills standards are about to be defined and they will be the basis for training as well as for Assessment (March 27, 2018)

During the observation, the Student Researcher, as well, observed that looking at such kinds of certified Certificate from Addis Ababa TVET agency for who prepare host apparent ship for trainees trainer Accreditation (March 28,2018).

In item 2 of the same Table about Industry evaluation of Trainees based on the occupational standard and unit of competency is made. From among 63(32.81%)trainees, and 7(46.7%) from technique-heads "strongly disagreed", while 19(17.14%) of them "disagreed" This analysis implies that TVET Polytechnic college produce trainees with need out of occupational standard and unit of competency .

As regards with the above point, TVET, the UNESCO and ILO (2002) in their recommendation stated that quality TVET helps to develop the individual's knowledge of science and technology in a broad occupational area requiring technical and professional competencies and specific occupational skills. National TVET systems therefore need to develop the knowledge and skills that will help the workforce become more flexible and responsive to the needs of local labor markets, while also competing in the global economy (UNESCO I.,2002).

Furthermore, the researcher concluded that the vocational training has been closely linked to the labor market needs, contributing to the reduction of unemployment, especially structural unemployment caused by technological advancement.

Almost all of the respondents "strongly disagreed" on trainees lack of necessary Industrial-based technological skill. As for the Trainees, trainer and technique-heads the result shows that each of them have 65(33.85%),35(50%),7(46.67%) respectively (from the above table 9 item 3).

Regarding the above question during an interview from selected industry technique- head from close ended questionnaires TVET-councilors (councler-2) said:

Along with changes in the country's economy, foreign investors and following to sharing other Countrys Experience, Many well-trained employees are able to use modern facilities in industrial zones and export processing zones. However, a great number of workers have not yet been

trained. To meet the needs for better trained employees, some enterprises in industrial zones have provided on-the-job training based on industrial technological skill for the trainees (Apria 1, 2018).

The researcher observed that there is such kinds of technological machineries covered by without giving for the trainees services or any training in the Polytechnic College because of lack of skilled man power trainers.

Regarding item 4 of the same Table, about the polytechnic has established platform for external partnership involvement is the information system related to labor market " strongly disagreed" majority of the responses .The arithmetic mean value is also 1.3 less than from the expected average mean 3 .

In respect of this issue , the Researcher conducted an open ended questioner for one of the technique heads of respondent (technique head -3) said:

In the nearer future, one of the key duties will be the forging of linkages between vocational for external partnership involvement training and social demand. Training should become driven by the demand of companies for human resource development Linking vocational schools with Enterprises, renewing the vocational curricula and making them competency-based, improving Teachers competencies, enhancing the material conditions of the vocational schools, improving the acceptance of vocational training in the society, reforming policies and the mechanisms in administration and management of vocational training are the main tasks to make the whole system more efficient and effective by establishing eternal platform for external partnership (April 13,2018).

According to Lopez-Acevedo, (2003),the current situation reflects the imbalance of trained labor supply and demand. The most important reasons for this are: job applicants fail to meet the requirements for professional skills because they are not trained in the required skills, and enterprises are not able to provide accommodations for trainers. the root of the shortage of skilled labor can be traced to persistence of antiquated and unresponsive training

mechanisms in vocational and technical systems which are not providing new entrants with appropriate skills.

4.6 Respondents' view on Collaboration between industries and TVET polytechnic Colleges in the area of curriculum development .

Table 10, a company collaboration for TVET polytechnic college and course development .

Strongly disagree = 1, Disagree = 2, Undecided= 3, Agree = 4 Strongly agree =5

S.N	Item	Respondents		Scale with value					Statistics	
				1	2	3	4	5	Mean	av.mean
1	A company collaborates with the TVET trainers by hosting study visits of a lecturers .	Trainees	F	78	21	26	34	33	2.6	1.1
			%	40.63	10.9	13.54	17.71	17.2		
		Trainers	F	54	13	3	-		0.5	
			%	77.14	18.6	4.3	-			
		Technique-heads	F	5	3	3	4		0.2	
			%	33.33	20	20	26.7			
2	Industry involvement in the of courses development .	Trainees	F	78	23	48	24	19	2.4	1.1
			%	40.63	12	25	12.5	9.9		
		Trainer	F	37	14	10	5	4	0.7	
			%	52.9	20	14.3	7.14	5.71		
		Technique-heads	F	6	3	3	3		0.2	
			%	40	20	20	20			
3	The educational activities of the TVET College are linked to the companies in the region.	Trainees	F	45	75	43	26	3	2.31	1.1
			%	23.44	39.06	22.4	13.54	1.7		
		Trainers	F	45	11	3	5	6	0.7	
			%	64.3	15.71	4.3	7.14	8.6		
		Technique-heads	F	4	3	5	2	1	0.2	
			%	26.7	20	33.33	13.33	6.7		

From Table 10, item 1 majority of respondents" strongly dis agreed" about a company collaborating with the TVET trainer by hosting study, visits lecturer.

As Regards with the above issue ,the Researcher conducted an interview session with one of the TVET Trainers(trainer – 4)said:

For sustainable industry and TVET polytechnic College team work collaboration it helps the polytechnic College That his training cooperation has promoted understanding between vocational schools and Enterprises. Moreover, the vocational Schools do not have to spend money on purchasing equipment for practice, and trainees therefore learn more quickly. As for businesses, they use the trainees to make new products and groom skilled employees for themselves in the future(Apri 14,2018).

This implies that, The Vocational School teachers have reached a high level of qualification and their updated technical skills include advanced technological know-how for the industrial production during staying in the industry lecturer .Collective bargaining also is a powerful instrument to promote dialogue between stakeholders on different levels and to support action among employers , workers and trainers in the field of vocational training.

As shown in the same table item 2, the majority of respondents 78(40.63%) trainees, 37 (52.86%) trainers and 6 (40%) technique head "strongly disagreed" on industry involvement in the development of courses. Concerning the above issue, the researcher conducted an interview session with the trainer. Accordingly, one of the Trainers (trainer-5) said:

Integration into the world economy requires Industry to have a qualified and skilled labour force to meet the requirements of local and international labour markets. Vocational training plays a very important role in the labour market and in the cause is socio-economic development, job generation, poverty reduction, and labour structure transformation. Discussing the issue of vocational training, almost all Enterprises agree that vocational training is currently being conducted in a wasteful manner, failing to meet requirements and attract business's involvement. Enterprises once again have to invest their own money in retraining, normally in the form of internships in the factories. In dealing with the problem, Enterprises should not stand alone, but

should instead closely cooperate with training institutions, providing the latter with the information on their needs and their actual production status, so that the training institution can work out appropriate training measures(April 15, 2018).

Therefore , this implies that in order to have close interrelation for the development of course they can work together by initiating new course development idea by promoting Industry Park because it helps the country Labour demand by industrial parks has risen with their development. The demand for unskilled workers directly engaged in production by the enterprises in industrial parks always occupies a relatively high proportion of total labour demand.

Among From of the respondent the above table 10 item 3, 75(39.06%) trainees "disagreed" and 45(64.29%) trainer "strongly disagreed " but 5(33.33%) technique heads "undecided" on the educational activity of TVET Polytechnic College linked to the companies to region. Statistical data result showed that the average mean value of (1.1) is less than the expected mean value 3. This result implies there is mismatch demand and supply of industry for local and regional need of the required skilled man power. However, The availability of a trained labour force on the spot is still low due to the uneven distribution of education and training institutions, and the incompatibility between strategies for industries development and human resource training; Vocational training structure mismatches with labour structure requirements for businesses; Quality of trained labour fails to meet enterprise requirements, lagging behind regional standards. This is the problem of the entire education and training system at present.

Concerning this issue, the researcher conducted an interview session with trainer .

According one of the Trainees (trainees -2) said:

authorities investigate and develop strategies to support rural and remote and accommodation assistance to allow more isolated (trainees) students to access TVET courses (April 16,2018) .

From these , it could be safely concluded that an alternative strategy in less remote regions has been the purchase of a small bus to transport trainees between industrial sites and further training

and education facilities, and also TVET in regional state has been involved in a partnership between polytechnic College authorities and Industries (enterprise) to fund a bus is inefficient.

4.7 Major challenges in the TVET polytechnic Colleges and industry linkage.

11. What are the bottleneck major challenge of TVET polytechnic College and industries linkage?

Training systems systematically referred to the need to forge closer links between training and the labor market and Industrial Transformation and Development. TVET poly-technique College take the initiatives the pillar in facilitating this and linking with Industry the key to achieving this. Adequate collaboration between Technical and Vocational Education and Training institutions and industries would lead to provision of relevant practical skills for industrialization. It was found out that industrial attachment Linking of the private sector and the education institutions is a major rising concern in many developing countries. International recommendations of the United Nations Educational, Scientific and Cultural Organization for the improvement of technical education and vocational was the most pronounced linkage. Lack of initiative by TVET institutions and poor response from the industries were among the major challenges facing the linking of TVET polytechnic College and industry.

The other issue major challenges in the polytechnic College was practical training was insufficient which is traditional lecture method were employed which has an impact on the realization of competency during in the working place the industry leaders complain that. As a result ,individual trainees could not demonstrate the required skill ,knowledge and the ethics necessary for the job. Lack of job training on difficult unit of competencies in us and up grading trainers educational status in general ,the challenges for skill development in to days world complex ,and resource to address them are scare for any single enterprise .there is growing recognition of the need to find new approaches that make optimal use of the resource and comparative advantages of the public and private sectors for the benefit of both therefore to address such problem or bottleneck the collaboration of partnership working together TVET and poly-technique College and industries is very essential.

However, an open-ended question the above Q .11 made with the TVET trainees (traine-4) from sampled colleges mention sharing the same idea, on the above issue and said that:

Non –availability of courses in new and emerging solution ,the system unable to attract quality trainers ,inadequate of financial resource ,lack of equivalence for employment purpose,lack of over all social recognition are also major bottleneck problem TVET Polytechnic College and industry (Apri, 18 2018).

Regarding to above the same open-ended question made with industries technique- heads (techanueq-head-6).said mention that:

Enterprises in industrial are not only experiencing a shortage of labour quantitatively, but they also suffer a serious deficiency in the average and high quality labour force for positions such as general director, executive director, marketing director, financial director, etc. The "import" of high quality labour is one of the measures for resolving the current labour shortage, The availability of a trained labour force on the spot is still low due to the uneven distribution of education and training institutions, and the incompatibility between strategies for industrial development and human resource training, Vocational training structure mismatches with labour structure requirements for businesses, The Government's guidelines, mechanisms and policies on human resource development strongly and directly affect the formation, utilization and development of human resources, creating conditions for realizing the objectives of industrial development in particular and national socio-economic development in general (April, 18 2018).

The researcher was also able to observed that the major challenges for the linkage between TVET polytechnic College and industries:

The problems of collaboration: It was believed that the role of education and training should be focused on enhancing labour productivity; therefore, a well-developed TVET system was considered as a necessary condition for successful economic development. The industry lacks interest in investing money in linkages with TVET. To implement a successful linkage, both TVET providers and the industry should feel that they have mutual benefits; more importantly, the industry should feel that linking with TVET delivery will lead them to significant benefits

and/or economic profits. However, Both poly technique college case, enterprises have not seen these benefits and do not feel encouraged to solidify industry linkages with TVET. The industry isn‟t involved in designing curricula and evaluations of skills. The provision of practical training in the work place is also rare. The enterprises are not highly interested in providing training for trainers. However, it is important to provide them with workplace training in order to update trainers‟ knowledge and skills and this can only be accomplished through a well-established partnership with enterprises. Provider's lack of operational capacity prevents it from building successful networks with enterprises. In Bangladesh, many local institutions don't have the ability to develop and operate their networks with their counterpart's enterprises. Only collaboration without effective operational capacity does not make any sense. In Addis Ababa, lack of operational capacity in the industries is another problem faced in collaboration. To make a collaboration is easy however it may difficult to control by administrator. The administrator should have special interest in the objectives of collaboration. The administrators of both institutions might have special control unit to ensure the smooth program in both of the places. One of the factors contributing to the limitation of industry participation is lack of direct administrative control. This loss of administrative control made enterprises less interested in TVET participation. Lack of employer incentives has also discouraged industry participation. The government has not provided sufficient financial incentives and reward programs to encourage enterprises to partner with TVET. The lack of employer incentives are also not adequate and as a result they become demotivate to provide training. The capacity of institutions are increasing as a result the operational capacity in the industries also be there.

In generally we can safely concluded that the above bottle neck problem of polytechnic College and Industries mighty be solved the prospection of prediction also became possible to say that some issue made with accordingly : Employability and Demand and Supply matching ,multiple skill, improving productivity living standard of the people, attracting investment of skill development ,strength the comptativence of the country ,enhancing individuals' employability wage self employment and ability to adapt to changing technologies and lobar market demand and also it promote Commitment by all stakeholders to own skill development initiative because skill development initiative support employment generation economic development and social development process .

CHAPTER FIVE

5. Summary, findings,Conclusion, and Recommendations

This chapter deals with the summary of the major findings, conclusions and the recommendations forwarded based on the findings.

5.1. Summary

The purpose of this study was to investigate the Linkage between poly -Technique Colleges and Industries in Addis Ababa :challenges and prospects .The researcher design utilized in this study was descriptive survey design .A total of 277 respondents were used in this study .more over trainees, trainers and technique heads sampling technique were employed. In order to achieve the purpose of this study, the following basic questions were raised:

1. what does the linkage between polytechnic colleges and industries look like in Addis Ababa?
2. Does the TVET polytechnic college training program satisfy the man power need of industries?
3. what are the challenges and prospects of TVET industries linkage ?

The data analysis led to the following major findings.

The following major findings were obtained:

1. The study revealed that TVET graduates from both Colleges passed low level skills and they didn't have the required confidence in carrying out their duties and responsibility.
2. It was found out that TVET Polytechnic Colleges institution and industries had weak linkage in such areas like industrial visits and Worksop.
3. The study showed that the Polytechnic Colleges were poorly funded and lacked adequate infrastructural and workshop facilities.
4. The study showed that trainees had poor foundational knowledge in science subject.

5. It was found out that the TVET Colleges had inadequate facilities and infrastructure.
6. The study disclosed that there were inconsistent practices of monitoring ,supervision and evaluation in the TVET colleges.
7. It was found out that industries didn't recognize and appreciate the activities of trainers and their qualification adequately.
8. The study revealed that trainees received little or no chance to engage themselves in hands-on practices during their training in the TVET Colleges due to lack of adequate equipment.
9. The major challenges in the linkage between industries and TVET polytechnic Colleges were found out to be Low priority for vocational education and inadequate linkage with industries.

5.2. conclusions

The study revealed that the linkage between the two TVET colleges and industries was poor. Hence, it can be safely concluded that this situation would lead to the production of less skilled middle level workforce that have little or no chance to be employed in the dynamic and changing labour market.

Furthermore ,the TVET Colleges didn't posses modern machine ,equipment and instructional material required for the training. This situation might negatively affect the prospects of the TVET Colleges as training in situations.

Finally, the study disclosed that instructors were usually using the traditional lecture method during the training in stead of learner- cantered method s and techniques . From this, it could be concluded that graduates would lack the required practical skills, and this intern would negatively affect their chance to get gainful employment or self –employment.

5.3. Recommendations

Based on the above findings, the research offers the following recommendations to improve the linkage between TVET polytechnic Colleges in Addis Ababa : challenges and prospects .

1. TVET Polytechnic Colleges are advised to consider the demand of industries and the labor market in the development of their curricula.
2. Industries should recognize that workplace training, on-the –job training and assessment are integral to the demonstration of competency, therefore, they should assign supervisors who shall report to the polytechnic colleges.
3. TVET polytechnic Colleges and Industries should develop more collaboration in staff exchange, student attachments, instructors' industrial experience, and equipment sharing.
4. Companies which recruit trained workers or sign training contracts are advised to contribute to the expenses of vocational training. The level of contributions can be negotiated but should not exceed the government's required level.
5. TVET polytechnic colleges should establish partnership with stakeholders through workshop, seminar, curriculum development, experience sharing and labor market analysis.
6. The federal TVET Agency is advised to provide various incentives for industries that accept trainees and help them develop the required skills ,knowledge and work ethics.
7. Clustering work placement training program should be structured for TVET trainees with regional Companies /Industries by federal government.
8. The TVET Colleges should strength their cooperation with industries companies so as to produce more competent graduates that meet the needs of labor market.
9. The roll of developing better curriculum in TVET program is important in bridging the gap between the changing technological and the industrial need of employer. therefore, TVET polytechnic Colleges need to restructure their programs to be responsive to the needs of the job market, especially the industry . to achieve this goal ,TVET curricula must focus on outcomes in terms of skill ,knowledge and attitudes required by industry.

10. The two TVET Polytechnic Colleges are advised to improved their linkage with industry companies to produce well -skilled graduates that have a new set of technological skills and such employability skills like communicators skills , interpersonal skills and problem –solving skills.

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Appendices

Appendix-A

Addis Ababa University

School of Graduate Studies

College of Education and Behavioral Studies

Department of Curriculum and Instruction

(management of vocational Education Unit)

Questionnaire

The purpose of the questionnaire is to gather information on the MA research study which is entitled "The linkage between poly technique TVET college and industries in Addis Ababa: challenges and prospects". Thus your frank and sincere response to the items in the questionnaire helps to meet the objective of the study. Be sure that the information you provide will be kept confidential and used only for the academic purpose.

I strongly believe that your input is very important to this study, hence, I kindly request you to answer all the questions .

The study is meant for impartial fulfillment of Masters of Art Degree in Management of Vocational Education.

General Direction:

1. Writing your name is not required

2. put '√' mark wherever are alternatives
3. Write your opinion briefly for the open ended questions.

Thank you for your cooperation!

1. Background of the Respondent

1.Sex A. Male☐ B. Female ☐

2.Age A.20-30☐ B. 31-40☐ C. Above 41 ☐

3.Your Specialization:_____

4.Level of qualification A. Diploma☐ B. Degree☐ C. MA/MSc.and above☐

5.Experience in years A. Below 5 ☐ B. 5 to 10☐ C.11t o 15☐ D. above 15 ☐

II. In this part of the questioner put ''√'' mark under the number which indicates the level of your agreement/ disagreement.

Please read each statement carefully and choose the answer that corresponds best to your opinion and put a tick (√) mark in only one space provided for each question from the given options in the below table based on your level of agreement or disagreement. Use the following rating scale to show your agreement or disagreement

The options represent

- Putting ''√'' mark in column "5" if you strongly agree.
- Putting ''√'' mark in column"4" if you agree.
- Putting ''√'' mark in column "3" if you are neutral.
- Putting ''√'' mark in column "2" if you disagree.

- Putting ‘‘√’’ mark in column“1” if you strongly disagree.

1= strongly disagree 2= disagree 3= undecided 4= agree 5= strongly agree .

NO	Questions	Measuring scale				
		1	2	3	4	5
1	The institute management supports industry institute linkage.					
2	Most industries are willing to accept trainees for apprenticeship.					
3	A company Collaborates with the TVET trainers by hosting study visit of a lecturer					
4	There are adequate Lab materials and equipments in the TVET poly- technique college.					
5	TVET colleges and Industries closely work together in the areas of workshop and seminar .					
6	There are necessary materials and machineries for training process and practices which is well-matched with the course.					
7	The TVET trainees apply teaching method that enhance competency .					
8	Industries show willingness to support the TVET program.					
9	Industries provide insurance coverage for student during apprenticeship.					
10	There is memorandum of Agreement (MOA) Industries and the colleges.					

11	Industries visited by TVET managers.					
12	The companies and TVET college work with local comminute .					
13	The poly- technique college gives recognition to companies which host trainees.					
14	Industries evaluate trainees based on the occupational standard and unit of competency.					
15	Trainees lack the necessary industry based technological skills.					
16	The poly –technique has established platform for external partnership involvement is the information system related to labour market.					
17	Industry involvement in the course development .					
18	The educational activates of the TVET college are linked to the companies in the region.					

III Please write your opinion for the following questions!

1. What are the major problems / challenges in the creating linkage between TVET poly-technique Colleges and industries.

   _____

   _____

   _____

2. What could be the possible solutions to the above mentioned problems?

   _____

   _____

   _____

3. What are the roles of the following stakeholders for successful linkage of poly – technique and industry ?

   A. TVET Colleges

_____

_____

_____

B. Industries/ companies

_____

_____

_____

C. Trainees

_____

_____

_____

4. How do industries interact with the college during the collaboration with the poly-technique

   col_____

   _____

   _____

   _____

5. what do you think ? would on -job training be possible ? or can college create the kind of hands on experience required?

6. what kind of teaching lecture training method do have make individual initiative to promote industries TVET poly- technique college linkage?

Appendix-B

Addis Ababa University

School of Graduate Studies

College of Education and Behavioral Studies

Department of Curriculum and Instruction

(management of vocational Education Unit)

Interview questions ----------

General Information ----------

Name of the college ----------

Job position----------

Service year with the current position

Qualification.

I . open -Ended Questions

1. Do you have sufficient and appropriate program for the TVET poly- technique colleges and industries linkage?

2. What change do you expected from cooperative training ?
3. What challenges do you observe from supply teaching learning material?
4. Do you have experience sharing program with industries?
5. Does industries have willingness during g the implementation of MOA?
6. Does TVET poly-technique College working closely with local community?
7. How do you see the recognition those who participate cooperative training?
8. Does have strong relationship consulting course of trainees with industries?
9. 9 Does TVET poly-technique College address labor market the skilled man power ?

Appendix-c

Addis Ababa University

School of Graduate Studies

College of Education and Behavioral Studies

Department of Curriculum and Instruction

(management of vocational Education Unit

. I . Observation and analysis check list fulfilling by the researcher

s.n	Activates	Measure of scale check list	
		Yes	No
1	Teaching learning method		
2	Educational material		
3	Work shop, machinery		
4	Exchanging stuff		
5	Sharing equipment		
6	Local community and labor market need assessment activity		

7	Student attachment		
8	Instructors /trainers industrial experience		
9	Research collaboration		
10	Technology attachment		
11	Curriculum revised		
12	Industrial visiting TVET colleges and other issue regarding		

This approval sheet

Declaration by student

The undersigned hereby declare that thesis entitled "The Linkage between Poly-technique TVET Colleges and Industries in Addis Ababa: Challenges and Prospects" is my original thesis plan submitted to the department of Curriculum and Instruction

Name of student: Tamrat Hailemariam

Signature _____

Date_____

Approval by thesis advisor

This proposal entitled "The Linkage between Poly-technique TVET Colleges and Industries in Addis Ababa: Challenges and Prospects" is submitted by Tamrat Hailemariam for the comment of the thesis with my approval as university advisor.

Name of advisor: Dessu Wirtu (PhD)

Signature: _____

Date: _____