EXPLORING THE IMPLEMENTATION OF COOPERATIVE TRAINING AT TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING COLLEGES IN OROMIA REGIONAL STATE, ETHIOPIA

by

KEBEDE SORESSA GUTA

Submitted in the fulfilment of the requirements for the degree of

DOCTOR OF PHILOSOPHY IN EDUCATION

at the

UNIVERSITY OF SOUTH AFRICA

Supervisor: Prof PR Machaisa

March 2022

DECLARATION

I declare that *Exploring the Implementation of Cooperative Training at Technical and Vocational Education and Training Colleges in Oromia Regional State, Ethiopia* is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

_____ _____

Kebede Soressa Guta Date

ACKNOWLEDGEMENTS

Many people and God have made this study a success. However, I am particularly indebted to my supervisor, Professor Pertunia Machaisa for her invaluable advice and scholarly guidance which has greatly contributed in realising the research project. Her patience, generous feedback and encouragement are invaluable.

My sincere thanks are due to the Adama, Ambo, Bako, Bishoftu, Jimma, Asandabo, Chiro and Hirna TVET Colleges for granting me permission to conduct the research in their respective institutions. Special thanks should be extended to the Vocational Counselling and Guidance Office Heads, instructors, students and enterprises focal persons who contributed to the study. Their willingness and wholehearted participation have made this study a reality. In addition I would like to thank Ambo University for the permission and support during my study, not forgetting to appreciate all friends and colleagues who helped me in various ways.

I would like to thank my parents and relatives for their love and support. Without their help during the course of my education, this degree would not be possible. More importantly, my special thanks go to my wife Zaab and my children: Jiru, Gemene, Biya and Meti. I am greatly indebted to their love and patience during our long-distance relationship. With very few complaints and regrets, they have enabled me to complete this PhD project.

Above all, I would like to thank God Almighty for He helped me this far. Praise the Lord!

ABSTRACT

The study was conducted to explore the implementation of cooperative training in TVET colleges in Oromia regional state which involves TVET-enterprise partnerships. The study utilised a mixed-methods research design, employed a questionnaire, semi-structured interviews and observation to collect information from 247 participants. The participants include 80 instructors, 150 students selected to complete the questionnaire, five Vocational Counselling and Guidance Office Heads and two enterprise focal persons sampled for interviews and 10 students to participate in group interviews in three groups. Cooperative training in the region failed to consider the local context in that some parts of the region relied on small enterprises established in rural and small towns while other colleges worked with medium and large-scale enterprises. The rapport between TVET and enterprises was complicated and mired with factors related to communication, commitment, budget and involvement of stakeholders. Enterprises did not participate in the planning process, had very little knowledge of learning outcomes of a given programme and were not involved in the assessment of trainees. Enterprises were not compensated for their participation in cooperative training and were not given warranty if any kind of damage occurred during cooperative training. Thus, cooperative training was not supported by necessary budget and it failed to consider local contexts and did not seem it meet the needs of the learners.

Key Terms

Cooperative training, Technical and Vocational Education and Training, enterprises, Partnership

ACRONYMS

AC	Abstract Conceptualisation
AE	Active Experimentation
CE	Concrete Experience
CoC	Centre of Competency
CSA	Central Statistics Authority
EP	Enterprise focal person
FDRE	Federal Democratic Republic of Ethiopia
GDP	Gross Domestic Product
GI	Group interviewee
GNI	Gross National Income
GTP	Growth and Transformation Plan
ILO	International Labour Organisation
MoE	Ministry of Education
NEAEA	National Education Assessment and Examination Agency
OOCC	Oromia Occupational Centre of Competency
PLC	Private Limited Company
RO	Reflective Observation
TVET	Technical and Vocational Education and Training
UNDP	United Nations Development Programme
VCGOH	Vocational Counselling and Guidance Office Head
ZPD	Zone of Proximal Development

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER ONE: INTRODUCTION

The overall objective of this study was to explore the implementation of cooperative training at Technical and Vocational Education and Training colleges in Oromia Regional State, Ethiopia. Accordingly, the first chapter presents context of the study, background of the study, the statement of the problem, key questions, research objective, significance of the study, scope and limitation of the study and organisation of the study.

1.1 OVERVIEW OF THE STUDY

Work is a very important part of human life for it is a means of earning for living and self-fulfilment. The level and the types of education are factors that determine the level and types of work in which individuals are engaged, which in turn, affects their standard of living. Technical and Vocational Education and Training (TVET) is one of the options that individuals pursue their education in order to enhance their productivity and be assured of a better job. According to Federal Democratic Republic of Ethiopia (FDRE, 2016), TVET is the form of education and training in any occupation, based on the country's education and training policy, is based below the level of higher education through formal or non-formal means of training. The TVET contributes to poverty alleviation, widens employment opportunities, creates job and fosters sustainable development. As Willis, McKenzie and Harris (2009) state that TVET is vital because globally about 80% of the workforce use technical skills. Improving the technical skills of the workforce contributes to improving the productivity of organisations. The TVET is a preference for the majority of youth as it focuses on the provision of vocational and technical skills that can be applied directly to their future careers. Hence, TVET makes a vital contribution to the achievement of societal development and cultivation of individuals' potential and paves a way for civilisation. Governments, national and transnational companies give due attention to its type, level and mode of delivery. Agencies working in the area of TVET, strive to bridge the gap between education and the world of work through appropriate integration of vocational education and the world of work (United Nations Educational, Scientific and Cultural Organization (UNESCO), 2002).

Countries and agencies use different strategies in the provision of TVET. Some countries and agencies provide both theory and practice in vocational institutes, while others provide most

of the training in the colleges and send their trainees to enterprises in the form of apprenticeship and some others vocational institutes run the training in cooperation with enterprises. In Ethiopia, cooperative training method is used to deliver the training as the system is undertaken through the cooperation of training institutions and enterprises where both TVET colleges and enterprises are responsible to deliver training (FDRE, 2016). Cooperative training, adopted from the German system of vocational education, is designed to nurture students' problem-solving skills by providing opportunity to practise what they have learnt theoretically in the classroom and transfer that knowledge to the actual work environment. Germany, amongst other countries, has been successful in implementing cooperative training partly because it is industrialised and enjoys the benefits of the advancement in technology. Ethiopia, on the other hand, is trying to provide technical and vocational education using cooperative training in a very different situation. Success of cooperative training, among other things, depends on the level of commitment of enterprises to facilitate learning opportunity for trainees. Placement of trainees needs to be aligned with the ambition of trainees and in this way, their assignment will be interesting as it will involve challenging tasks. The learning experience has to be timely and allocation of time would be appropriate for both theory and practice. Trainees will then have all necessary knowledge and skills and in this way develop positive attitude to utilise and operate the equipment found at the enterprises. At the end of placement, trainees should be given proper feedback on their performance.

Thus, in order to enrich the existing body of knowledge in the area of cooperative training in Oromia Regional State, it is necessary to explore how enterprises and TVET colleges work in collaboration so that the needs and interests of important stakeholders are satisfied. In addition, it is important to establish how to improve the scheme of TVET-enterprise partnership.

1.2 CONTEXT OF THE STUDY

Ethiopia is landlocked country situated in the Horn of Africa bordering Kenya to the South, South Sudan to the West, Sudan and Eretria to the North, Djibouti to the North-East and Somalia to the East and South-East of the country. Ethiopia depends on the port of Djibouti to do business with the rest of the world. Its location in the Horn, the size of the country, its population, its closeness to the Middle East and the role the country is playing in keeping peace in the region, gives her strategic dominance. According to the United Nations Department of

Economic and Social Affairs: Population Division (2022), Ethiopia is the second most populous country in Sub-Saharan Africa next to Nigeria having about 120 million people.

Ethiopia has maintained a 9.9% economic growth on average from 2007/08 to 2017/18 which can be considered as the fastest one in the region where the average regional growth has been recorded at about 5.4% (World Bank, 2019). The country's economic growth has fallen to 3.3% resulting from political transition and the northern conflict which significantly lowers agricultural productivity and other sectors, fall in foreign exchange and financing, drought and other related factors (IMF, 2022). The value of human development index (HDI) has increased from 0.283 to 0.470 between the years 2000 to 2018. However, it is still below average in comparison to other Sub-Saharan African countries which is at about 0.504. Ethiopia is ranked 173 out of 189 counties in the development index in the world. In line with this, life expectancy has improved from 47.1%to 65.8% between1990 and 2018. Expected years of schooling have also been improved from 3.1yrs to 8.5yrs which can be viewed as impressive development. As far as the Gross Domestic Product (GDP) is concerned, significant change has been observed as it has grown from $648 to $2,746 over the same years (International Monetary Fund, 2022).

As far as employment opportunities and the economic sector of the country are concerned, agriculture absorbs 70% of the labour force, being the second largest contributor to the economy with almost 34% of the economy being generated from this sub-sector. The largest contributor of the economy is the service sector which counts for 43% of the GDP. Manufacturing is the third sub-sector and its share is about 21% of the total GDP (Central Intelligence Agency, 2019). According to the World Bank (2009), four out of five youths are employed in informal enterprises and each employ less than five employees on average (Shaorshadze & Krishnan, 2013).

Ethiopia is aiming to be one of the lower middle-income countries by 2025 (National Planning Commission, 2016). As part of the strategy to realise this vision, the country has designed and implemented a series of five-year plans known as the Growth and Transformation Plan (GTP). In GTP I (2010/11-2014/15) remarkable achievements have been registered in the area of human resource, infrastructure and social development with active involvement of the people of Ethiopia. Based on the successful implementation of GTP I and the lessons learnt from challenges encountered in those periods, GTP II (2015/16-2019/20) was developed and has been implemented. In GTP II, the government of Ethiopia, with active involvement of all

stakeholders, working hard to sustain rapid and broad-based economic growth of the country, focusing on increasing agricultural productivity, enhancing the manufacturing industry, stimulating economic competition and improving quality of life (National Planning Commission, 2016). However, the implementation of GTP II has been jeopardised by sustained political unrest in the country and the COVID-19 pandemic.

Another important document developed by the government, which focuses on TVET, entitled the 'National Technical and Vocational Education and Training (TVET) Strategy', has been enacted since 2008. In the document, TVET has been entrusted to provide relevant and demand-driven education and training that contributes to the economic and social sector development mitigating problem of unemployment (Shaorshadze & Krishnan, 2013). The TVET institutions have been organised at different levels in accordance with the purpose they are designed to serve as the centre, college and polytechnic. The TVET schools that provide training for Level I and Level II are called TVET centres. TVET schools that provide training from Level I to Level IV are known as TVET colleges. The third types of TVET schools are known as polytechnics that provides training from Level I to Level V (Tirussew, Amare, Jeilu, Tassew, Aklilu and Berhannu, 2018).

The strategy formulated in 2008 clearly states that the programme is competency based and designed to be administered in collaboration of TVET and industry (MOE, 2008). The mode of the training is cooperative training, which is delivered via cooperation between TVET institutions and enterprises in which 30% in vocational institutions and 70% of the training contents provided in the enterprises (Otchia &Yamada, 2019). The reform on the TVET mode has been done to increase relevance of the training programme and facilitate smooth transition from school to the world of work.

The TVET colleges are meant to prepare youths and young adults to enter the world of work by providing them relevant knowledge, practical skills and nurturing positive attitudes. Skill acquisition is crucial for economic competitiveness and growth in a highly competitive world. To achieve this purpose, TVET colleges focus on an outcomes-based learning process. This form of education focuses on practice; that is, learners are required to demonstrate their knowledge and skills which requires flexibility in the mode of delivery, thus demanding initiation, development and deepening of cooperative training.

1.3 BACKGROUND OF THE STUDY

Education was luxury for the majority of the Ethiopian population and a significant number of the population were denied access to education until late 20th century. Educational attainment of youth aged 15 years and older was not more than 1.5 years of schooling with only 36% of the adult population being literate until 2008. Since the end of the 20th century, the government of Ethiopia with the help of donor agencies, has invested major resources to ensure access to primary education for its citizens. By the year 2010, almost all school age children had access to the first cycle primary education which has been recognised as a great achievement; however, only half of the relevant age groups have been enrolled to the second cycle of primary education (Shaorshadze & Krishnan, 2013).

During the years 1997-2018, Ethiopia implemented 8-2-2 as the primary (8years), general secondary (2 years) and preparatory (2 years) education structure (Ministry of Education, 1994). The initial eight years of primary education is subdivided into two as lower and upper primary school. The lower primary school is also known as the first cycle of primary education (1-4) and the upper primary school as the second cycle primary education (5-8). Like many other parts of the world, primary education (grades 1-8) gave due attention to basic numeracy and literacy skills. Successful completion of primary education is followed by two years of schooling known as general secondary education (grades 9-10). General secondary schooling is designed to help students to identify and determine their areas of interest. That is, whether to pursue their education or undergo vocational and skills training so as to join the world of work. After ten years of schooling, students could either be enrolled for preparatory school to prepare themselves for university education or to enrol for TVET and at other career-related training institutions. The TVET programme has been designed to prepare students for entry into the world of work. To enhance the quality of TVET and increase employability of graduates from the programme, a cooperative mode of training has been implemented. The Government of Ethiopia has considered education as the key supplier of skilled manpower for development sectors and other business enterprises. In line with this, formal TVET is designed to provide for grade ten completers (MoE, 2008).

Although encouraging results in improving basic aspects of life has been noted, human development indicators in Ethiopia remain at very low level compared with the rest of the world, as discussed above. In order to move Ethiopia out of a cycle of poverty and bring sustainable development to the country, there is a need for the development of a highly skilled workforce so that the country can transform its economy through value addition to its primary

commodities and natural resources. Poverty eradication and economic and social development are overarching objectives of sustainable development (Kindornay & Twigg, 2015). The Growth and Transformation Plan (GTP II) states that Ethiopia has to raise its average economic growth rate to 11% annually by increasing its productive capacity and efficiency via improving the quality, productivity and competitiveness of the economic sectors in order to be one of the lower middle-income countries by 2025 (National Planning Commission, 2016). In fact, the plan depicted the need for managing the ongoing rapid urbanisation to unlock its potential for sustained rapid growth and transformation. The economic growth must contribute to accelerate human development and technological advancement to ensure sustainable development. To create a conducive environment for the development of manufacturing industries, a number of industrial parks are under construction in different parts of the country (National Planning Commission, 2016), which combined with investment in infrastructure development, could contribute to attracting foreign investment which demands high skilled manpower.

It should be noted that the GTP II gave due emphasis to the quality of the TVET programme. To succeed, the government has invested a large portion of the budget in implementing cooperative training (National Planning Commission, 2016). To ensure quality of the TVET programme, occupational standards, accreditation of competencies, occupational assessment and system of curriculum development have been put in place. The TVET could serve as the centre of technology incubation for micro and small-scale enterprises (National Planning Commission, 2016). Appraisal and development of TVET in Ethiopia has been paramount because productivity of the employees is very low (Shaorshadze & Krishnan, 2013). In addition, unemployment and underemployment are pervasive problems where salary can be taken as one of the indicators. Wages of domestic workers are about one third of the average wage in Sub-Saharan Africa. Labour productivity of employees in industries is less than average compared to Sub-Saharan African countries (World Bank, 2009 in Shaorshadze & Krishnan, 2013). It seems that enterprises are not well equipped and the skill and technical efficiency of workers in enterprises are inefficient.

In the context of Ethiopia, involvement of the government in education in general and in TVET in particular is critical to ensure access, equity and quality of the service. The government has not restrained itself with the production of guidelines and determining the policy direction. The Ministry of Education has played an active role in every detail of the activity. It is the Ministry that determines whether students should join TVET sector or continue with preparatory school

education. Based on national examination results, the Ministry determines which level of TVET and the type of trades' students should be enrolled.

According to the Federal Democratic Republic of Ethiopia (20116) TVET is provided with active involvement of TVET Colleges and enterprises known as cooperative training. The education and training policy of the country clearly stated that students should spend 30% of time in TVET Colleges to learn their respective field in theory and 70% of their time in enterprises to learn by doing (Ministry of Education, 2008). As the matter of fact the government has developed policy and different implementation guidelines to foster collaboration between TVET Colleges and enterprises so that quality vocational education can be provided. The assumption behind the cooperation between TVETs and enterprises is that the learning need of students could be satisfied, the need for skilled manpower of the country could be satisfied more efficiently and the quality of the training could be enhanced. Thus, implementation of cooperative training determines the effectiveness of the training to a great extent.

1.4 STATEMENT OF THE PROBLEM

Increasing the number of youths and adults who have relevant technical and vocational skills is mandatory to enhance employment opportunity and entrepreneurship (Kindornay &Twigg, 2015). This is mainly because a significant majority of the workforce must take part in business, service and manufacturing sectors so as to enhance the development of a given country. Learning opportunities should be increased and diversified using a wide range of education and training modalities so that all youth and adults, especially girls and women, can acquire relevant knowledge, skill and competencies (Buckler & Creech, 2014).

Since education is considered as the key for sustainable development, TVET must contribute to alleviate poverty, promote peace, conserve environment and improve quality of life (Vietnam, 2006). To this end, the training in Ethiopia needs to give due attention to enhancing the productivity of the labour force so that issues of unemployment and underemployment can be addressed (National Planning Commission, 2016). In Ethiopia, the government, NGOs and private sectors are all running different training programmes. TVET institutions are authorised to offer training for students from Level 1 to Level 5 with successful completion of each level being confirmed by certification. The Government states that TVET schools, especially ones run by the government, are required to provide training in collaboration with

industries/enterprises. Students of TVET colleges are taught theory in vocational colleges and engage in hands-on practice in enterprises. In order to ensure effectiveness of cooperative training both TVETs, enterprises and other stakeholders are given duties and responsibilities.

The very purpose of cooperative training is to train youths and young adults so that trainees acquire and develop competencies needed in the labour-market. Cooperative training has been designed to involve enterprises in the production of skilled manpower required by the labour market. This intern motivates enterprises to assign experienced trainers who plan and supervise training processes in order to maintain and increase trainees' performance and improve competitiveness trainees in a rapidly changing market. Cooperative training familiarises trainees with the actual world of work that helps to develop the required skills, competencies and attitude demanded by enterprises. In other words, it increases the employability of the trainees after completion of necessary technical and vocational training. Cooperative training is expected to serve as a tool to equip learners with job-related knowledge and skills.

According to Buechele and Menkir (2010), TVET institutions are mandated to recruit trainees for the programme, develop a training plan in collaboration with partners, oversee trainees' enrolment in the programme and integrate cooperative training into the trainees' overall education and training programme. TVET teachers are responsible for facilitating cooperative training, orientating trainees, organising access to workplace, linking the training plan with the work, assuring that trainees acquire basic competences prior to cooperative training programme and submitting a training achievement report to the industry and the TVET institutions (Learn4Work, 2012). Trainees on the other hand, are responsible for acquiring technical and vocational competencies necessary to meet the objectives of the training programme. Trainees are also responsible for engaging in and complete the task given to them, following the instruction given by the employers, instructors or any other persons assigned as trainer. Trainees are expected to be abide by the rules and regulations of the organisation, strictly follow safety rules, keep confidentiality of the firm, take part in the training and assessment as per the plan and carefully organise a portfolio. Enterprises are also responsible to avail necessary facilities, give instruction for the trainees as per the plan and notify the TVET institutions in writing within 10 days upon completion of the training (Buechele & Menkir, 2010).

Upon successful completion of the training, the likelihood of the graduate being competent, motivated, employable, adaptable and innovative could be enhanced. This in turn, could

develop the required workforce which could contribute to the socio-economic development of the country. Enterprises could also benefit as they are given the opportunity to create a competent and motivated workforce to meet their demands. Thus, cooperative training is that all parties, (students, industries and TVET institutions) could get comparative advantages. TVET Institutions on their part, also benefit for the very purpose of their establishment would be achieved.

The system has been found to be effective in Germany resulting in a lower rate of unemployment particularly as the technology is highly advanced. Germany's cooperative training involves four major sponsoring parties – employer, pubic authority, trainees and trade union (Shaorshadze & Krishnan, 2013) and this range of stakeholders contributes to its success. The context of Ethiopia is different as the country not only has fewer factories, the technology is not advanced and youth unemployment is enormously high, which put lots of strain on the companies for they are limited in number as compared to the number of potential trainees who might want to take part in the training.

Access to TVET is necessary but not sufficient because quality is also of paramount importance as employability and productivity of graduates are conditioned by competency. In order to provide quality training among other things, TVET colleges and enterprises should be equipped with appropriate training facilities. Trainees have to be provided with proper guidance and counselling services in order to choose discipline that suits their aptitude, academic background, career ambitions as well as current and future job opportunities (Assefa, *et al*., 2018). The notion of employability presupposes the skill needed in the labour market and should drive the types of training provided (Learn4Work, 2012). Thus, TVET requires an economic policy environment that promotes creation and growth of enterprises and stimulation of economy. Training systems are also greatly enhanced by strong management capacity for it drives the entire system.

TVET education, in its current form, has been implemented in Ethiopia for about a decade. Nevertheless, there is very little documented information on the effectiveness of cooperative training in enhancing the capacity of trainees. Mosisa (2016) has researched how graduation from TVET might create entrepreneurial opportunity. Hailu (2012) on the other hand looked at the labour outcomes of the programme. With this understanding about TVET, this study was

designed to investigate implementation of cooperative training at TVET colleges in Oromia Regional State.

1.5 RESEARCH QUESTIONS

In response to the concept and the problems discussed above, the main research question is: *To what extent is the implementation of cooperative training at TVET Colleges in Oromia Regional State effective?*

Based on the main research question, following subsidiary questions were formulated:

1. How do government guidelines and policies contribute to the establishment of college-enterprise linkage in the implementation of cooperative training?
2. How does cooperative training contribute to satisfying students' learning needs?
3. To what extent does cooperative training contribute to enhancing the quality of training?
4. What factors affect the commitment of enterprises in cooperative training?

1.6 OBJECTIVE OF THE STUDY

1.6.1 General Objective

The general objective of the study was to explore implementation of cooperative training at TVET Colleges in Oromia Regional State and to ascertain if the training meets its objectives so that the likelihood of employability and job creation of the trainees can be enhanced.

1.6.2 Specific Objectives

The specific objectives of the research are to:

- Examine how government guidelines and policies contribute to the establishment of college-enterprise linkage.
- Examine how a cooperative training programme contributes to satisfying students' learning need.
- Determine if cooperative training contributes to the enhancement of quality of the training.
- Identify factors that affect commitment of enterprises in cooperative training.

1.7 SIGNIFICANCE OF THE STUDY

The study is significant because it adds knowledge to the existing literature on how the TVET-enterprise linkage functions in the context of Ethiopia. Thus, the study contributes to bridge the research gap in the area of cooperative training. It helps to identify the good practices of TVET-enterprise linkages and challenges so that the linkage can be strengthened to ensure delivery of quality training.

The study also has practical contributions. Hence, the study brings pertinent and timely information about the nature of linkage between TVET and enterprises to the attention of relevant stakeholders and each stakeholder can make use of it from their own perspective. Policy developers and decision makers can take the study as an input to revitalise the partnership between TVET and enterprises. That is to say, the output of the research can offer insight to make necessary adjustments to the programme by developing different kinds of working documents and designing strategies to address the need and interest of all parties. Enterprises and TVET colleges, on the other hand, will gain outsiders perspectives which might be helpful in modifying their ways of doing things for the betterment of their cooperation. Parents and learners also will be benefited from the outcome of the study as it could contribute to enhance quality of TVET training.

Moreover, the finding of the research could serve as base line information for academics, researchers, and consultants for further study and also as reference material for postgraduate students.

1.8 RESEARCH DESIGN AND METHODOLOGY

This section presents a brief overview of the research design and methodology which is discussed in detail in Chapter 3.

1.8.1 Research Design and Paradigm

The study falls into pragmatist paradigm as pragmatism helps to shed light on how research approaches can be mixed fruitfully and offer the best opportunities for answering important research questions. Johnson and Onwuegbuzie (2004) suggest that a qualitative approach is more appropriate in some situation while a quantitative one is appropriate in others. Mixed method research enables the researcher to draw from the strength and minimize the weakness

of quantitative and qualitative research. Pragmatic researchers are able to merge the two approaches within a single investigation because quantitative research is typically motivated by the researcher's concerns, whereas qualitative research is often driven by a desire to capture the participant's voice (Onwuegbuzie & Leech, 2005). Thus, a mixed methods approach was used in this research.

1.8.2 Study Areas, Population, Sample and Sampling Strategy

In Oromia region, there are more than 150 TVET schools working at college level; with the region being subdivided into nineteen administrative Zones. Of the nineteen Zones, four Zones were selected purposively considering geography, life of the community in the area, variation in concentration of industries and related issues into account. One Zone was sampled from the area where industries were relatively highly concentrated. Three Zones were selected from the area where numbers of industries were either limited or nonexistent. The study sampled 247 participants, of which five were Vocational Guidance and Counseling Office Heads, two were Enterprises Focal Persons and 10 students were considered for group interview that were selected using purposive sampling technique to get insider information regarding the issue under scrutiny. Some 80 teachers and 150 students were sampled using stratified and systematic random sampling technique to completed questionnaire.

1.8.2 Methods of Data Collection

The objective of the research is to provide an in-depth exploration and analysis of how TVET college-enterprise linkage is contributed to explore implementation of cooperative training at TVET Colleges in Oromia Regional State to enhance quality of colleges training program and try to seek the possibility for its improvement so as to satisfy the need of trainees. Thus, in this research, a questionnaire, semi-structured interviews, direct observation and secondary source of data (policy documents, books and web information) were used as the method of data collection.

1.8.2.1 Questionnaire

Questionnaires were used to collect data from 80 TVET instructors and 150 trainees. Well-established questionnaire is a tool for acquiring information on participant characteristics. It contributes to reveal present and past behavior, standards of behavior or attitudes and their beliefs and reasons for action with respect to the topic under investigation (Bulmer, 2004). Large number of participants could be addressed within a short period of time with little effort

(Adams, Anne and Cox, Anna, 2008). Participants feel more confident because of the impersonal nature of a questionnaire and anonymity, and thus feel freer to express views which they fill might be viewed negatively by authority.

1.8.2.2 Semi-structured interview

Semi-structured interviews help to discover the world of the respondents within the topical dimension. Epistemologically they privilege the participant as knower (McIntosh & Morse, 2015). Semi-structured interviews are advantageous because they allow the researcher to prepare questions ahead of time in that the researcher appears competent during the interview. They also allow informants the freedom to express their views in their own terms and provide reliable and comparable qualitative data (Rabionet, 2011; Cohen & Crebtree, 2006). Semi-structured interviews have been used to establish the variety of opinions concerning a particular topic. In this research, semi-structured interviews were conducted with participants to examine the effectiveness of cooperative training because of the TVET colleges and enterprises linkage.

1.8.2.3 Direct Observation

Observation is appropriate for collecting data on naturally occurring behaviours in their usual contexts. It is a useful method to develop holistic understanding of the phenomena under the study in that it helps to check for nonverbal expression of feelings and check for how much time is spent on various activities (Kawulich, 2005). The researcher conducted observations at two industries and eight TVET colleges while the training was taking place to examine the effectiveness of the overall programme: to look at how the collaboration helps to enhance the effectiveness of cooperative training.

1.8.3 Data Analysis

As the study fall under mixed methods research, it helps to triangulate the findings. The quantitative part of the research was analysed using mean, standard deviation and percentage. Analysis of qualitative part was carried out immediately after the interviews and group interviews were completed (Gillham, 2000). The recordings were transcribed and the researcher familiarized himself with the data and then codes the data to generate categories and themes for reporting.

1.9 MEASURES OF TRUSTWORTHINES

As the research followed a convergent mixed methods research design where both qualitative and quantitative data are collected side by side, validity and reliability should be based on establishing both with quantitative and qualitative sections of the research (Creswell, 2018). This aspect is discussed in detail in Chapter 3

1.10 ETHICAL CONSIDERATIONS

Concerning ethical issues, the researcher requested permission from Oromia TVET agency to conduct research. Then after, permission was requested from the department of TVET office of respective Zones. All participants of the study were also assured of confidentiality of their names by signing an agreement of confidentiality. Further ethical considerations are discussed in detail in Chapter 3.

1.11 SCOPE AND LIMITATION OF THE STUDY

The goal of the study was to explore the role of the TVET-enterprise linkage in enhancing quality of TVET. Data were collected from students, TVET teachers, focal enterprise persons and college deans of four zones namely West Showa, East Showa, West Hararge and Jimma. From each zone, two TVET colleges were selected and an enterprise engaged in cooperative training. The selection took into consideration distribution of enterprises and location.

Another important aspect of the study was that the research focused on the linkage between TVET and enterprises for the provision of quality training. The research deliberately ignores the other aspects of the training that affect the quality of the training in any other way. Ethiopia has considered cooperative training as an important form of training as it gives the trainees the opportunity to familiarise themselves with the actual world of work and become involved in the practice.

The study focused exclusively on public TVET colleges and hence, the findings of the research are confined to public institutions and might not be generalised to private and community-based TVET colleges as their mode of training might differ. The limitation of the study is also related to the constraint of time and insufficient funds. The researcher did everything possible to make sure that time constraints and insufficiency of funds would not affect the execution of tasks involved.

1.12 DEFINITION OF TERMS

The following are the operational definition of terms recurrently used in this thesis.

- **Cooperative training** – is collaborative training provided by industries and TVET colleges to produce qualified manpower so that the need for a competent labour force can be produced in the process

- **Micro enterprises**– an enterprise having a total capital, excluding building, not exceeding Birr 50000 (fifty thousand) in the service sector or not exceeding Birr 100000 (one hundred thousand) in the manufacturing industrial sector and engages five workers, including the owner, his family member and other employees (FDRE, 2016)

- **Occupational standard** – is a standard defined by experts from the world of work indicating the competences that a person should possess to be able to productively perform in the world of work (FDRE, 2016)

- **Partnership**– a formal arrangement by two or more parties for the provision of quality TVET

- **Sustainable development**– the effort of meeting current human needs without compromising the ability to meet the future human needs

- **Technical and Vocational Education and training** – is the type of education designed to provide work-related skills, mastery of knowledge and scientific principles for youths and young adults in order to be prepare for world of work either to be employed or entrepreneurs.

- **TVET-enterprise linkage** – the partnership designed to facilitate and execute cooperative training between TVET colleges and enterprises

- **Unemployment** – a condition in which a person above specified age is not in paid employment or self-employment

- **Underemployment** – a person who has not found the opportunity to utilise one's own capacity because of engagement in involuntary part-time work (lack of the necessary skill)

1.13 ORGANISATION OF THE STUDY

The study has been organised into five chapters. *Chapter 1* introduced the study and presented the context of the study, background of the study, statement of the problem, key research question, objectives of the study, significance of the study, scope and limitation of the study, definition of terms and organisation of the study. *Chapter 2* reviews the literature on theories of learning such as experiential learning theory, constructivist theory of learning and transformative learning. Thereafter, there is a discussion on the basic concept of TVET, workplace learning, cooperative learning and other countries experience regarding cooperative learning. The chapter also discusses cooperative training and the status of TVET in Ethiopia. The final sections of the chapter introduce the conceptual framework which underpins the study. *Chapter 3* presents the research design and methodology describing the research design and paradigm, study area, population, sample and sampling strategy, methods of data collection, research process, data analysis and ethics used in the study. *Chapter 4* presents the discussion of the findings and analysis of the research. *Chapter 5* is the concluding chapter which focuses on the summary, draws conclusions and offers recommendations.

CHAPTER TWO - REVIEW OF RELATED LITERATURE AND CONCEPTUAL FRAMEWORK

In the review of related literature and conceptual framework, an attempt has been made to depict theories of learning focusing on experiential learning, constructivist theory of learning and transformative learning. Thereafter, basic concepts of technical and vocational education and training, workplace learning, cooperative learning and cooperative training were discussed. The chapter also has reviewed the current status of TVET in Ethiopia and enterprises in Ethiopia. The final part of the chapter was meant to deal with conceptual framework focusing on human capital verses capability approach, education in the capability approach and interplay between education, training and development.

2.1 THEORIES OF LEARNING

Learning is the process of change and is an individual activity by its nature as the same learning experience might have a different effect on the learners on different occasions. Different levels of emphasis have been given to different learning models: assessment for learning, observation, coaching, goal-clarification, mentoring, peer-learning, simulation, instruction, concept-formation, reflection, meta-cognitive learning, problem-solving and practice (Scott, 2016). In this section, the experiential learning theory, constructivist learning theory and transformative learning are discussed as pertaining to the topic being researched.

2.1.1 Experiential Learning Theory

Learning is the process whereby knowledge is created through transformation of experience (Baker, 2012 in Kolb, 1984). The experiential learning theory is grounded in a humanistic and constructivist perspective, proposing that human beings are naturally capable of learning, and that experience plays a critical role in knowledge construction and acquisition. The experiential learning theory is intended to be a holistic adaptive process on learning that merges experience, perception, cognition and behaviour (McCarthy, 2016). Thus, education has to focus on engaging students in an optimal learning process and must be considered as practice of reconstruction of experience (Kolb & Kolb, 2009). In the 21st century, organisations are viewed as the learning system where learning is a continuous process, shaping behaviour of employees

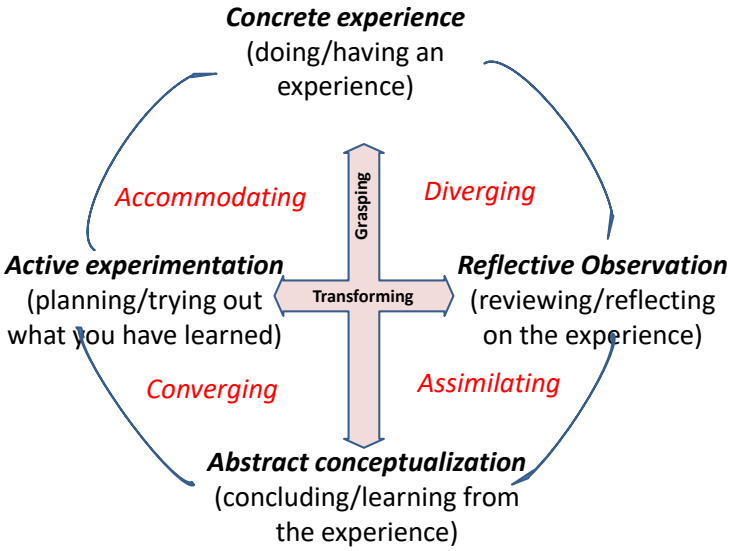
and contributing to enhance their performance. Experiential learning theory relates to six propositions:

1. Learning is best conceived as a process, not in terms of outcomes. To improve students' learning, the primary focus should be on engaging them in a process that best enhances their learning. In order for the process to foster student learning, it has to be accompanied by proper feedback because education is a continuous process of reconstruction of experiences.
2. All learning is re-learning. Learning is best facilitated by a process that draws out the students' beliefs and ideas about a topic so that they can be examined, tested and integrated with new and more refined ideas.
3. Learning requires resolution of conflicts between dialectically opposed modes of adaptation to the world. Conflict, differences and disagreement are what drive the learning process. In the process of learning, one is called upon to move back and forth between opposing modes of reflection and action and feeling and thinking.
4. Learning is a holistic process of adaptation. It is not just the result of cognition but involves the integrated functioning of the total person – thinking, feeling, perceiving and behaving. It encompasses other specialised models of adaptation from the scientific method to problem solving, decision making and creativity.
5. Learning results from synergetic transactions between the person and the environment. Stable and enduring patterns of human learning arise from consistent patterns of transaction between the individual and his or her environment. The way we process the possibilities of each new experience, determines the range of choices and decisions we see. The choices and decisions we make to some extent determine the events we live through, and these events influence our future choices. Thus, people create themselves through the choice of actual occasions they live through.
6. Learning is the process of creating knowledge. The experiential theory of learning proposes a constructivist theory of learning whereby social knowledge is created and recreated in the personal knowledge of the learner. This stands in contrast to the 'transmission' model on which much current educational practice is based where pre-existing fixed ideas are transmitted to the learner. Experiential learning theory posits that learning is the major determinant of human development and how individuals learn shapes the course of their personal development (Kolb & Kolb, 2011).

Thus, experiential learning is transformation of experience that is grounded in humanistic and constructivist perspective. Education in general and TVET in particular, should focus on engaging students for an optimal learning process. When learning is considered as the process, it is easy to view learning is relearning where learners can learn, unlearn and relearn. In the process of experiential learning, students might be required to find themselves in a state of conflict, difference and disagreement. Conflict, difference and disagreement are necessary preconditions for resolution of conflict which is considered as experiential learning. Learning is a holistic process of adaptation and requires synergetic transaction between the person and the environment. This implies that in order to foster the process of learning in TVET colleges, students have to be given the opportunity to have meaningful interaction with the learning environment.

2.1.1.1 The cycle of experiential learning

As knowledge is a result of the combination of grasping and transforming experience, it is paramount to understand that experience is at the centre of learning. Kolb developed the experiential model of learning which suggests that for effective learning to occur, the learner must go through the entire cycle also known as the four stages of learning. The four stages of learning depict two polar opposite dimensions of grasping experience – concrete experience (CE) and abstract conceptualisation (AC), and two polar opposite dimensions of transforming experience – reflective observation (RO) and active experimentation (AE) (McCarthy, 2016). Learners have to choose which set of learning abilities to use in a specific learning situation. As depicted in Figure 3.1 below, learning is conceived as a four-stage cycle where learners must go through each stage, experiencing, reflecting, thinking and acting.



(Source: Kolb & Kolb, 2011)

Figure 2.1: The experiential learning cycle

Learning begins with receiving new information through experiencing concrete, tangible, felt qualities of the world, relying on sense and immersing oneself in concrete reality or by reaching the stage of abstract conceptualisation, which is the exact opposite. This learning style preference would tend to perceive, grasp, or take hold of new information through symbolic representation thinking about, analysing or symbolically planning. In the process of the transforming experience, the reflective observation ability tends to observe others who are involved in the experience and reflect on what happens while active experimentation stage favours jumping into doing things (McCarthy, 2016).

As portrayed above, Kolb and Kolb (2011) experiential learning theory puts forth two dialectically related modes of grasping experience - Concrete Experience (CE) and Abstract Conceptualisation (AC) - as well as two dialectically related modes of transforming experience - Reflective Observation (RO) and Active Experimentation (AE). The two dimensions of learning could result in grasping and transformation of four forms of knowledge known as divergent, assimilative, accommodative and convergent knowledge. According to Kolb (1984 in Kolb & Kolb, 2011) divergent knowledge is obtained when concrete experience is apprehended and transformed through intention. Accommodative knowledge is comprehended when concrete experience is apprehended and transformed through extension. Assimilative knowledge is absorbed intentionally through comprehension and transformation of experience intentionally. Finally, convergent knowledge is obtained through extension of comprehension

and transformation of experiences. In order to enhance the process of learning, the learning experience must be meaningful and relevant because the new behaviour is better assimilated when learners use it actively (Knapp & Benton, 2006 in Kolb & Kolb, 2011).

Experiential learning occurs through the creative tension between the four learning modes - CE, RO, AC, and AE - that are responsive in certain contexts (see the Figure 2.1). Thus, the learning process is portrayed as a learning cycle where the learner assumes each of the four domains of experiencing, reflecting, thinking and acting. The process has been explained in the following way:

> The recursive process is responsive to each learner, learning experience, and content learned. Immediate or concrete experiences are the impetus for observations and reflections. Reflections are then assimilated and deduced into abstract concepts from which new implications for action are drawn. These new implications are then used for active experimentation, which leads to new concrete experiences (Kolb & Kolb, 2005b in Kolb & Kolb 2011).

However, the learning process is not the same for all individuals; learning styles can be used to show individual differences in learning because their physiological structure tends to determine individual ways of learning which rely on some adaptive orientation over the others. Stability and endurance of individual learning comes not only from genetic quality of characteristics of human beings but also transaction between individuals and environmental circumstances (Kolb & Kolb, 2011). Because of their hereditary, life experiences and the demands of their current environment, individuals develop their own preferred ways of learning. Individuals resolve conflict, be it concrete or abstract, active or reflective in patterned and characteristics ways. Experiential learning theory posits that learning is the major determinant of human development and how individual learners shape the course of their personal development (Kolb & Kolb, 2011).

2.1.2 Constructivist Theory of Learning

Effective teaching involves not only teachers' effort in transmitting knowledge to students, but also active participation of students in the process. In fact, students should actively construct knowledge in their minds. Learners themselves discover and interpret information, compare new information with the old and revise principles when they no longer apply (Andang Suhendi & Purwarno, 2018). This means that learners have to discover and transform information,

check new information against old, and revise rules when they do not longer be applied. The constructivist view of learning considers the learner as an active agent in the process of knowledge acquisition. Constructivism is an approach to teaching and learning based on the premise that cognition (learning) is the result of 'mental construction'. It is also known as a learning theory that focuses on explaining how people might acquire knowledge and meaning from their experiences (Olusegun, 2015). According to Driscoll (2000 in Olusegun, 2015), constructivist theory says that knowledge exists only in the human mind and that it does not have any real-world reality. Learners will be constantly trying to derive their own personal mental model of the real world from their perception of that world. As they perceive each new experience, learners will constantly update their own mental models to reflect the new information and will therefore construct their own interpretation of reality. In line with this, Jonassen (1994, in Olusegun, 2015) says that constructivism taps into and triggers students' innate curiosity about the world and how things work and thus they are engaged in applying knowledge and real-world experience, learning to hypothesise, testing their theories, and ultimately drawing conclusions from their findings.

Constructivism as theory has been evolved from behaviourist thinking which opens up new avenue for both teachers and students to research learning experiences (Andang*et al.*,2018). Constructivism was born on the basis of Piaget's cognitive development and Vygotsky's structural theory. From Piaget, it has been deduced that students learn actively, create schemes, assimilate and accommodate all forms of science and from Vygotsky, we get social constructivism, group work internships and so on (Andang *et al.*, 2018). The basic premise of constructivist theory is that people are said to gain experience from what they learn: people create their own meaning from experiences they come across and thus learners are considered as active agents in the process of knowledge acquisition (Olusegun, 2015).

Cognitive development deals with how thinking processes of learners change over time. Cognition includes the acquisition and usage of knowledge which cannot be observed directly but only understood as a result of change in behaviour. The basic assumption related to learning is that cognitive processes affect how and what is learned. Cognitive theorists have brought to light important explanations on how the human mind processes knowledge. Such explanations help us to understand how information is processed in the human mind altogether (Baysan, 2016). According to this, individuals learn better when they associate the new information with prior knowledge and people learn pieces of knowledge easier if they combine different pieces

of information by associating them with each other. Individuals can choose what and how they process and learn which means that when people are exposed to different kind of stimuli, they pay attention to only a small part of them or just one of them. They have to make a choice which means that when learners are aware that they do not have to know everything, it is necessary to help them in choosing which kinds of information they have or do not have. Learning experiences are not taken directly, rather students construct knowledge from concrete experiences. Individuals' prior knowledge and beliefs affect how they construct knowledge in their minds. Each student with different environmental and cultural backgrounds has their own experiences. Cognitive theorists believe that learners' prior knowledge determines what will be learned from the new experiences or how effective the learning will be. People are active participants in their own learning processes. Cognitive theorists do not believe that people acquire and internalise the knowledge just as it is. Instead, people actively take part in their learning processes (Baysan, 2016).

Piaget worked with children for many years and he revealed important ideas and concepts including assumptions related to development of logical thinking. Piaget believed that children are curious, active and motivated to learn in nature. They search knowledge and make sense of the world by questioning. Children depend on their prior experiences in the process of construction of new knowledge. Knowledge is constructed schematically after new learning: the schemas are organised and developed better when new connections are established. The connections are developed after new experiences. Learning and cognitive development occurs with the processes of assimilation and accommodation, which complete each other. During the process of assimilation, new information is placed in existing schema without causing any changes in it. During the process of accommodation, either existing schema is changed in the form of including the new information or a new schema is established for the new information. The new information is analysed to associate by activating (remembering) for the existing schemas. Thus, the occurrence of accommodation is very unlikely without the process of assimilation (Baysan, 2016).

Vygotsky also conducted research in the area of child development, learning and teaching. Unlike Piaget who focused on individual cognitive development (individual constructivism), Vygotsky believed that adults in a society engineer children's cognitive development in a desired and systematic way (social constructivism). Adults engage children in tasks strengthening them mentally and helping them to achieve these activities. Vygotsky

emphasised a socio-cultural approach to learning and stated that mental processes begin with social interactions. He argued that thinking and language are dependent on each other. Vygotsky took into account that children can succeed without the help of others but in many cases, children are able to reach greater success with the help and guidance of others who are at a higher level. The space between what a learner can do without assistance and what a learner can do with help and guidance from adults or more capable peers is known as the zone of proximal development (ZPD) (Baysan, 2016).

Contemporary constructivists believe that when two or more people come together the meaning is understood better than when working alone: culture plays a major role in the process of knowledge construction. The process of learning through social constructivism has the following advantages: Learners get the opportunity to express one's own ideas, organise and defend them against others; can learn deeply by extrapolating, setting up hypotheses and asking questions; can meet other students who might learn the same subject having different ideas; might get the opportunity to become aware of an information gap and complete the missing parts; are given the opportunity to realise that explanations and ideas of other people having different cultural and ethnic backgrounds may be different and equally valid.

Thus, interaction of students while learning helps to enhance cognitive development, because their engagement assists in gaining concepts, developing thinking and reasoning skills that can be used in social interactions. In due process, learners can also develop the ability to look at an issue from different angles. In addition, they also develop interpersonal skills. Looking at the success of their peers may increase their self-confidence (Baysan, 2016).

2.1.2.1 Implication of Constructivism for Teaching and Learning

Knowledge is built by cognising the subject and the function of cognition is adaptive and serves the organisation of the experiential world (Fernando & Marikar, 2017). For constructivists, learning is an active process in that information might be imposed but understanding cannot for it comes from within. This implies that teaching involves transmission of expert knowledge from teachers to students. But the process cannot be complete unless learners are actively engaged in the process (Fernando & Marikar, 2017).The main function of teachers in the constructivist class is to be facilitators, which means helping students to engage in learning activities to make meaningful connections between the prior knowledge, new knowledge and the process involved in learning (Olusegun, 2015). According to Brooks and Brooks (1993 in

Olusegun, 2015) a constructivist teacher is someone who will encourage and accept student autonomy and initiative, use a wide variety of materials, including raw data, primary sources, and interactive materials and encourage students to use them, inquire about students' understanding of concepts before sharing his/her own understanding of those concepts, encourage students to engage in dialogue with the teacher and with one another, encourage student inquiry by asking thoughtful, open-ended questions and encourage students to ask questions to each other and seek information of students' initial responses, engage students in experiences that show contradictions to initial understandings and then encourage discussion and assess students' understanding through application and performance of open-structured task.

Thus, the constructive theory of learning goes well with the rhetoric of vocational education which emphasises the importance of learning by doing. Constructive theory of learning considers the learner active agents in the process of driving their own mental image of the real world. Students gain experiences and create their own meaning from what they come across in the process of knowledge acquisition. As individuals learn better when they associate the new information with the prior knowledge, it is necessary to create opportunity for vocational students to practise what they have learnt in theory and help them to visualise how the system works. This is because when people are exposed to different kind of stimuli, they pay attention to only a small part of what has interested them most. Cooperative learning will help learners more if enterprises are well prepared taking note learners' zone of proximal development: that is what learners can do independently and what they can do if they are supported.

In general, constructive theory of learning brings to light the importance of learners' expression of their own idea, exploration of ideas and concepts, asking questions, working in group, filling information gap and develop understanding of the fact that things can be done in different ways. Thus, a constructivist teacher is a teacher who facilitates and encourages student autonomy through support and the availability of a variety of materials, primary sources, and interactive materials which will scaffold their learning.

2.1.3 Transformative Learning

Learning is understood as the process of using a prior interpretation to construe new or revised interpretation of the meaning of one's experience in order to guide future action. Transformative learning is a deep structural shift in the basic premises of thought, feelings, and actions (Calleja, 2014). Transformative learning is a shift in perspective during which habits of mind become more open, more permeable, more discriminating and better justified (Cranton, 2006; Mezirow, 2012 in Kroths & Cranton, 2014). Transformative learning has also been defined as a process through which learners critically reflect on assumptions underlying their frames of reference and resulting beliefs, values and perspectives and engage in a reflective rational dialogue about those assumptions and, as a result, transform their assumptions and frames of reference so as to be more inclusive, open and better justified (Fisher *et al.*, 2009). When a discrepant perspective occurs in a person's life, it can either be ignored or it leads to an examination of previously held beliefs, values and assumptions. In the latter case, the potential for transformative learning exists; however, transformation does not occur until the individual changes. Transformative learning occurs when a person encounters a perspective that is at odds with his or her current perspective (Kroths & Cranton, 2014).

Transformative theory draws on a constructivist perspective about how adults emancipate themselves from their own uncritically assimilated assumptions. In these terms, transformative learning emancipates one from the uncritically assimilated assumptions underlying terms such as 'habits of mind' and 'points of view', making it possible for one to think and act in new ways (Fisher *et al.,* 2009). Sometimes there is scenario that triggers individuals to question one's own world view, which results in a disorienting dilemma. The trigger might or might not be a single moment or a single emotion and even go beyond, which is then known as integrating circumstances (Clark, 1993a in Calleja, 2014). According to Clark (1993a), integrating circumstances is defined as a certain period in which the person consciously or unconsciously searches for something which is missing in one's life. When a person finds this missing piece, the transformation process is catalysed (in Calleja, 2014). Such a disorienting dilemma causes a fundamental change in the way the person views the world.

This frame of reference, or schema, is an important part of transformative learning theory as it is the main unit of change (Kitchenham, 2012). Learners acquire new knowledge and skills, elaborate on the knowledge and skills they already have and engage in revisions of the knowledge they have acquired or revise their values, beliefs and assumptions (Kroths & Cranton, 2014). Mezirow (2000) identified four kinds of learning known as acquisition of new

knowledge and skills, elaboration on the existing knowledge and skills, revision of meaning schemes and revision of meaning perspectives (Kroths & Cranton, 2014).

Mezirow (2012) describes transformative learning as a process of 'perspective transformation' where people use their mental frame of reference to make meaning out of their experiences. Frame of reference refers to mental structures that act tacitly to "guide the way in which we experience, feel, understand, judge and act. Indeed, frame of experience includes assumptions, beliefs, and expectations that influence a person's behaviour" (Mezirow, 1991:48 in Hoggan, 2018).

The process of perspective transformation refers to the awareness of one's own tacit assumptions and expectations and those of others and assessing their relevance for making meaning and interpretation. Transformation occurs as learners are aware of the assumption behind meaning-making habits, critically evaluating them and revising those assumptions to make them better (Mezirow 2000:7-8 in Hoggan, 2018). Learners transform their taken-for-granted frames of reference to make them more inclusive, discriminating, open, emotionally capable of change and reflective so that they may generate beliefs and opinions that can be proved as true or justified to guide action. Transformation focuses on how learners negotiate and act on purposes, values, feelings, and meaning (Mezirow 2000:7-8 in Hoggan, 2018). Mezirow (2012) emphasises the importance and centrality of experience, understanding one's frame of reference, the role of a disorienting dilemma, the importance of critical reflection and critical self-reflection in the process of transformative learning (in Calleja, 2014).

2.1.3.1 Disorienting dilemma

Disorienting dilemma is one of the major phases of transformative learning adult learners may go through (Calleja, 2014). Taylor and Elias (2012 in Calleja, 2014) defined disorienting dilemma as experience that illuminates and challenges unquestioned assumptions that determine how we know ourselves and the world around us. Mezirow (2000) believes that a disorienting dilemma is triggered by a life crisis or major transition which causes personal transformation and lays the foundation for perspective transformation. Grievance occurs upon an individual life when a person begins to realises that the old ways of perceptions are no longer relevant (Boyd & Myers, 1988 in Calleja, 2014). Grievance is a major critical phase that can be considered as a disorienting dilemma, particularly with the realisation that the old ways of perceiving are no longer relevant (Imel, 1998 in Calleja, 2014). A disorienting dilemma can be

resolved by acquiring necessary information, and learning the process by which the subject moves from an unexamined way of thinking to a more examined and critical reflective way (Mezirow, 1999 in Calleja, 2014).

2.1.3.2 Perspective transformation

Perspective transformation is one of the central issues in transformative learning and it happens when a learner finds themselves in a state of disorienting dilemma. According to Mezirow *et al.* (1990 in Calleja, 2014) perspective transformation can be defined as the process of becoming critically aware of how and why our presuppositions have come to constrain the way we perceive, understand, and feel about our world, of formulating these assumptions to permit a more inclusive, discriminating, permeable, and integrative perspective and of making decisions or otherwise acting upon these new understandings.

Mezirow identified ten phases in the process of transformative learning which include a disorienting dilemma, self-examination with feelings of fear, anger, guilt or shame, a critical assessment of assumptions, recognition that one's discontent and the process of transformation are shared, exploration of options for new roles, relationships and actions, planning a course of action, acquiring knowledge and skills for implementing one's plans, provisional trying of new roles, building competence and self-confidence in new roles and relationships and a reintegration into one's life based on conditions dictated by one's new perspective (Mezirow 2000:22 in Hoggan, 2018).

2.1.3.3 Critical reflection and critical self-reflection

Critical reflection and critical self-reflection involve examination of one's own world view where each frame of reference is comprised of a series of habits of mind, meaning schemes and meaning perspectives. It leads to a perspective transformation influencing factors around self that contribute to a world view (Kitchenham, 2012). Mezirow's (2000) conceptualisation of critical self-reflection was influenced by Freire's conscientisation, which to a great extent, focuses on the process of developing critical awareness (Calleja, 2014). Freire (1974) identified three stages in the growth of consciousness which culminates in critical thought known as intransitive thought, semi-transitive and critical transitivity.

Critical self-reflection can bring about transformation of the frame of reference that comprises habits of mind and subsequent points of view. Critical self-reflection involves four types of

learning known as learning through elaborating existing frame of reference, learning new frames of reference, learning through transforming habits of mind and learning through transforming points of view (Calleja, 2014).

Mezirow (2012) explained the notion of critical reflection proposing three types of reflection such as content reflection, process reflection and premise reflection. The first two forms of reflection lead to straightforward transformation which results from asking questions about what was done in the past and considering actions, origins and related factors (Kitchenham, 2008 in Calleja, 2014). The third type of reflection leads to more profound transformation which can be achieved via considering the larger picture. In this type of reflection, people evaluate their own value systems which underly their actions. Such action will lead to a more comprehensive and global evaluation of someone's practices and meaning perspective (Calleja, 2014).

To conclude, transformative learning can be viewed as interpretation of the meaning of one's experience in order to guide future action. TVET colleges are expected to help students to have more positive, permeable and discriminating mind that is freed from any sort of authority. Learners should be encouraged to elaborate and revise prior knowledge they had so that they can acquire new knowledge and skills that can be justified. Transformative learning can be considered as a four-step learning process known as acquisition of new knowledge and skills, elaboration on the existing knowledge and skills, revision of meaning schemes and revision of meaning perspectives which can be applied in the process of skill development and attitudinal change in vocational colleges.

TVET practitioners are expected to be aware of the fact that there are three stages of transformation called disorienting dilemma, perspective transformation and critical reflection and self-reflection. Disorienting dilemma occurs when an individual realises that the old ways of perceiving are no longer relevant. This stage is the base for learners to find new information so as to move from an unexamined way of thinking to a more examined and critical reflective way which will result in perspective transformation. Critical reflection and critical self-reflection involve examination of one's own world view which is very important for learners to become self-reliant and lifelong learners.

2.1.4 Summary on Theories of Learning

The teaching learning process in TVET is expected to be backed by theories of learning in so that trainees need for learning would be satisfied and quality of education could be enhanced. The TVETs are educational institutions where lots of practical activities are expected to be involved where learners should have to think out of the box, reflect on the learning experiences and work in collaboration. This in turn is conditioned by mastery of the basic concept of experiential, constructivist and transformative theories of learning. Vocational education be it in TVET and enterprises should enhance learners engagement on construction and reconstruction of experiences. Learning can be considered as a four-step learning process known as acquisition of new knowledge and skills, elaboration on the existing knowledge and skills, revision of meaning schemes and revision of meaning perspectives which can be applied in the process of skill development and attitudinal change in vocational colleges. Experiential learning views learning as a process where a lot of learning and re-learning takes place. When learning is considered as the process, it is easy to view learning is relearning where learners can learn, unlearn and relearn. Basically, learning results from synergetic transactions between the person and the environment. This implies that in order to foster the process of learning in TVET colleges, students have to be given the opportunity to have meaningful interaction with the learning environment. Students are required to find themselves in a state of conflict, difference and disagreement. Conflict, difference and disagreement are necessary preconditions for resolution of conflict.

Constructivist view of learning is at the process of learning, relearning and unlearning. Learners learn not by taking what the environment provided them: prior knowledge and beliefs affect how learners construct knowledge in their mind. Cognitive theorists believe that students prior knowledge affect their process of learning hence learners are active agent in the process of formulating their own mental image of the real world. Students gain experiences and create their own meaning from what they come across in the process of knowledge acquisition. As students learn better when they associate the new information with the prior knowledge, it is necessary for TVET and enterprises to have good rapport and work hand in hand to prepare meaningful learning experiences. On top of that both TVETs and enterprises are expected to be well aware of learners' zone of proximal development. Learners should be encouraged to elaborate and revise prior knowledge they had so that they can acquire new knowledge and skills that can be justified. Thus, TVET colleges and enterprises should help learners to have more positive, permeable and discriminating mind.

2.2 BASIC CONCEPT OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING

The very purpose of this section was to develop deeper understanding of technical and vocational education and training. Different authorities gave definitions for technical and vocational education and training. According to European Commission (2014) Technical and Vocational Education and Training (TVET) refers to any form of learning aimed at equipping people with know-how, skills and/or competences required for the jobs of today and tomorrow (European Commission, 2014). UNESCO and ILO (2002) similarly revealed as these refer to aspects of the educational process involving the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupants in various sectors of economic and social life. TVET is the type of education that prepares people to work in various jobs, such as trades, crafts or technical. It is sometimes referred to as career education or technical education (Ukachi & Ejiko, 2018). It can also be viewed as the type of training programme that contributes towards the gaining of life skills which comprises problem solving and communication skills, knowledge and attitudes that are relevant in the competitive world (UNESCO and ILO, 2002). TVET helps to equip people with participatory skills and scientific knowledge so that they can cope in a rapidly changing world. Vocational and technical education is defined by different authors in different ways. Okoro (1999 in Kennedy, 2011) defined vocational education as the knowledge and skills an individual learns and develops to apply in an occupation. These experiences may be organised and institutionalised or unorganised and haphazard. Simply put, vocational education may be looked at as a series of controlled and organised experiences arranged to prepare a person for socially useful employment. Kotsikis (2007 in Mortaki, 2012) explains that TVET is any form of education that aims to acquire qualifications related to a certain profession, art or employment or provides the necessary training and appropriate skills as well as technical knowledge, so that trainees are able to enter a profession, or complete art or an activity, independently of their age and their training level. UNESCO and ILO (2003) similarly defined TVET as an educational process involving the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupation in various sectors of economic and social life. Technical and vocational education is further understood to be:

- An integral part of general education;

- A means of preparing for occupational fields and for effective participation in the world of work;
- An aspect of lifelong learning and a preparation for responsible citizenship;
- An instrument for promoting environmentally sound sustainable development;
- A method of facilitating poverty alleviation (UNESCO and ILO, 2003).

Vocational education can be divided into five areas:

1. Professional education preparing teachers, clergy, military personnel,
2. Commercial education including bookkeepers, clerks, business leader,
3. Industrial education preparing machinists, shoemakers, metal workers,
4. Agricultural education providing skill and knowledge for the tillage of the soil management,
5. Education in the household arts such as dressmaking, cooking and baking (Snedden, 1977in DeFalco, 2016).

The philosophy behind the provision of vocational education is to equip trainees with necessary skill so the trainees can be economically self-reliant (Kennedy, 2011). According to Okorie (2001 in Kennedy, 2011), the occupational choice of the individual should be based on the orientation of the individual such as interests, aptitude and ability. All occupations are worthy of consideration and everyone should be given the opportunity to choose an occupation in line with their inclination. Necessary resources should be allocated for education and it is important to make sure that the education provided reflects the needs of society.

On the other hand, Odu (2007, in Kennedy, 2011) identified an underlying premise that determine the effectiveness of TVET by capitalising quality of training materials, readiness of trainees, the environment and minimum requirement to be eligible for the training. The training materials utilised by vocational education should be the same as the tools and machines used for production. Effectiveness of the training in vocational education is determined by the extent of individuals' thinking and manipulative habits required by the desired operation. Resemblance of the environment of TVET and the work environment is another determining factor signifying the quality of the training. The minimum level of preparation is required to assume and retain employment in each occupation. If not, the occupation will neither benefit the trainee nor the society. Since education is considered as the key to effective development strategies, technical and vocational education and training (TVET) must be the key to alleviate

poverty, promote peace, conserve the environment, improve the quality of life for all and help to achieve sustainable development (Fien & Maclean, 2009).

TVET aims at developing human abilities in terms of knowledge, skills and understanding so that they can carry out vocational activities effectively and efficiently. It is to prepare individuals for employment in various recognised occupations. The foundation of vocational technical education is based on philosophy which was mainly established for self- employment and self-reliance of the individual(s) who attend the programme (Kennedy, 2011).

The main purpose of TVET is to:

- enhance the trainees' skill who have completed the highest level of secondary education,
- develop the professional knowledge and skills required for the practice of a profession,
- evaluate the participants' educational level, for them to become competitive professionals in the future,
- assist the students in their adjustment to the changes in the productive procedures,
- provide specialised training,
- satisfy the continuously changing needs of the labour market,
- cultivate the integration of the learners in economic and social life,
- enforce vocational training,
- equip trainees with knowledge, skills and attitudes that the organisations demand,
- acquaint students with the code of social values, the integration of culture through professional socialisation and the creation of a behavioural and social code that constitute the professional deontology and
- prepare for the exercise of the rights as well as obligations of the citizen as a professional (security, protection, social benefits, taxes) (Kotsikis, 2007 in Mortaki, 2012).

Winer (2000) explains that that vocational education is designed to develop skills, abilities, understanding attitudes, work habits and appreciation encompassing knowledge and information needed by workers to enter and make progress in employment on a useful and productive basis. It is an integral part of the total education programme and contributes towards the development of good citizens by developing their physical, social, civic, cultural and economic competencies (Kennedy, 2011).TVET mainly help trainees to prepare for

occupations requiring manipulative skills and is designed to develop understanding, skills, abilities, and attitude and work habits needed for useful and productive tasks (Udoye, 2005). It is a type of education that needs the inculcation of practical skills so that learners are able to practise in real life situations. TVET equips trainees with the knowledge and skills in the productive, distributive and service industries for self or paid employment (Eya, 2001). It can also be regarded as a system that enables one to acquire knowledge and skills in the vocational and technical areas to systematically solve human or societal problems (Learn4Work, 2012). TVET lays great emphasis on provision and development of skill for the youth and young adults to meet the required human resources in the world of work. It is therefore the bedrock in which a country's socio-economic, technological and cultural advancement must be built (Idialu, 2007). In addition, TVET enhances opportunities of learning; it has the function of providing qualified manpower demanded by changing the individual and enabling him/her to use complex technology.

2.3 WORKPLACE LEARNING

This part of the chapter places emphasis on reviewing work-related learning outside of educational institutions known as the workplace and relates to formal as well as informal learning. The role that practice-based learning activities play in the development of occupational capacities is crucial. There is strong conviction that workplace learning contributes to enhance learners' smooth transition from student life to work life.

The term workplace learning encompasses all efforts made by professionals of various roles in organisations, who contribute for performance improvement, training, learning and development of adults (Giacumo, Villachica & Breman, 2018). Mumford (2013) on the other hand suggests that the term workplace learning is used to embrace all types of learning which are stimulated by the needs of the workplace (Unwin & Fuller, 2003). Workplace learning contributes to enhance performance of individuals in organisations for it is a means to building the capacity of individuals. In addition, workplace learning also influences the performance of a group or a community of practitioners in that both individuals and community of practitioners need due consideration (Phillips, 2016).

Human performance improvement is a systematic process of discovering and analysing important human performance gaps, planning for future improvement in human performance, designing and developing cost-effective and ethically justifiable interventions to close

performance gaps, implementing the interventions and evaluating the financial and nonfinancial results (Giacumo*et al.,* 2018). Workplace learning can be categorised into learning as a product and learning as a process (Hager, 2009). Learning as product puts individual learning at the centre, focusing on the rational, cognitive and work performance aspects of the learners. Learning in this category is taken for granted and assumes that workplace learning is similar to formal learning thereby favouring the acquisition of knowledge, skills and attitude. Learning as the product, downplays the importance of social, organisational and cultural factors in workplace learning and performance.

Workplace learning is viewed as a process; workplace learning and performance are embodied phenomena that are significantly shaped by social, organisational and cultural factors that extend well beyond the individual (Hager, 2009). Eraut (2004a) also argues that individual cognitive and tacit knowledge are embodied in a situated way which calls for the balance between examination of individually acquired knowledge and the knowledge developed through participation in the workplace (Phillips, 2016). In addition, Lave and Wenger (1991) and Wenger (1998) have made an important contribution to the view that learning is shaped by social, organisational and cultural factors through the development of the notions such as communities of practice and participation, which provide a stark contrast to the view of learning as acquisition (Phillips, 2016). Engeström (1999 in Phillips, 2016) views the workplace learning activity as a system composed of a range of components including items such as rules and regulation in the workplace, division of labour and flow of information/means of communication.

2.4 COOPERATIVE LEARNING IN TVET CONTEXT

Research shows that there is a gap between the knowledge needed at work and the knowledge and skills produced through formal education (Tynjala, 2009). Research by Stenstrom (2006) and Tynjala *et al*. (2006 in Tynjala, 2009) confirms that graduates of universities and polytechnic colleges have not obtained adequate skills when graduating but develop the necessary skills at the workplace. In fact, researchers argue for the necessity of collaboration between schools and the workplace to enhance the process of learning. According to Tynjala (2009), connectivity is paramount in bringing schools and workplaces together to foster students' effective learning. This premise has been examined in the development of vocational

and professional expertise which requires integration of different forms of knowledge, the connective model of work experience and transformation at the level of both individual learning and the learning of organisations and systems (Tynjala, 2009). The model posits two main categories known as professional knowledge and personal knowledge. Personal knowledge mainly focuses on knowledge of the self as a performer and learner and meta cognition (self-knowledge and self-assessment). Professional knowledge is divided into three categories such as content knowledge, procedural knowledge and knowledge about one's profession.

Anderson (1983 in Tynjala, 2009) categorises knowledge as declarative and procedural. Declarative knowledge refers to explicit knowledge and expressed as factual, conceptual or theoretical while procedural knowledge is practical and implicit in nature. Bereiter (2002) also acknowledged the relevance of such classification of knowledge and noted that such dichotomy leaves out a vast range of knowledge as they are not included in either category. Tynjala (2009) presents a broader classification of the types of expert knowledge as:

1. *Statable knowledge* – the type of knowledge corresponds to declarative knowledge that can be stated into explicit knowledge.
2. *Implicit understanding* – the type of knowledge that is implicit which is also known as tacit knowledge. Individuals acquire implicit understanding through experience; not by reading books. Such type of knowledge is very important at higher levels.
3. *Episodic knowledge* – the types of knowledge obtained from the interaction with environment. Events, cases, narratives, narratives from our pasts and episodes are the bases for episodic memory. Reasoning and decisions made in occupational situations in most cases emanates from our repertoires of previous cases.
4. *Impressionistic knowledge* – this type of knowledge incorporates feelings and impressions that influence our actions and is beyond statable knowledge and implicit understanding. Impressionistic knowledge is extremely vague and expressed in feelings and intuitions.
5. *Skills* – comprising cognitive and sub-cognitive component. The cognitive component is knowing-how – being able to do things – while the sub-cognitive part is the improvement in skill that comes with practice.
6. *Regulative knowledge* – is knowledge that extends the scope of knowledge beyond one's own ways of doing and thinking, strength and weaknesses. Regulative knowledge

pertains to be collective activity involving the principles and ideals that certain professional groups pursue in order to accomplish their work.

Eraut (2004a) has tried to identify types of knowledge that trainees could obtain in educational contexts and the workplace. Categorisations of knowledge obtained from educational institutions include vocational and professional knowledge are:

1. *Theoretical knowledge:* aspect of knowledge dealing with concepts and theories;
2. *Methodological knowledge*: focuses on collection, analysis and interpretation of evidences;
3. *Practical skills*: skills acquired via laboratory work, project work and so on;
4. *Generic skills*: skills obtained from education which include basic skills in number, language and information technology, communication skills, learning skills and self-management skills;
5. *General knowledge* about occupations.

The types of knowledge found in the workplace are:

1. *Codified knowledge* acquired during initial professional training and further episodes of formal learning or in the workplace itself. The former includes codified academic knowledge and concepts, theories and methodology. The latter includes job-specific technical knowledge and knowledge of systems and procedures.
2. *Skills* needed in the job: technical, interpersonal, thinking and learning.
3. *Knowledge resources* including materials and on-line resources, and especially other people, that is, colleagues, clients, networks, and so on
4. *Understanding*, involving understanding of other people, situations and contexts, strategic understanding and so on.
5. *Decision making and judgement* which vary with the context: decisions may be rapid, with little time for analysis or consultation, or deliberative and consultative (Hager, 2009).

2.4.1 Cooperative Learning in Other Countries focusing on Germany's Experience

Different countries administer vocational education differently. Anglo-American countries and Japan follow a liberal system, France and Sweden run school-based occupational skills development while Germany favours a dual vocational training system. In the United States of

America (USA) and the United Kingdom (UK), the state does not charge their companies to train their employees or take responsibility. Governments of these countries are restricted to providing basic skill training as part of fulfilling societal requirements. Gessler and Howe (2015) state that there is no vocational education system supported either by government or enterprises. Employees are responsible for securing jobs; this is the joint position of both state and enterprises. Japan has a similar structure to the basic liberal model: the state education system is only geared towards company requirements to a very small degree. In contrast to the Anglo-American model, however, the companies take on responsibility for the enterprise-based training system. In France and Sweden on the other hand, the government takes full responsibility for school-based vocational training. The government plans, organises, implements and monitors vocational training while companies have no involvement in any of these aspects (Gessler &Howe, 2015).

Germany is a pioneer in implementing a dual vocational training system in TVET programmes and the country and enjoys a high level of international regard, as it appears possible to achieve social and economic goals (Gessler &Howe, 2015). Dual systems of vocational education and training (VET) are specific training systems that aim at systematically combining the advantages of training in companies and education in vocational schools (Fürstenau, Pilz, & Gonon, 2014). The dual system of TVET is expected to enhance successful transition of young people from school to the world of work by educating young people so as to guarantee skilled personnel for the development of a successful economy (Fürstenau*et al.,* 2014). In order to establish workable and effective dual training systems, both state and enterprises believe they gain from cooperation. In Germany, the state benefitted from transferring responsibility and enterprises also found it advantageous for taking responsibility. Such a market state partnership is embedded in the socio-cultural context that values, recognises and supports a dual training system (Gessler & Howe, 2015). The state is responsible for providing school-based vocational training, defining the framework and creating favourable conditions for companies to undertake the training and delegation of enterprises to carryout work-based vocational training.

According to Greinert (1995 in Gessler &Howe, 2015), Germany's dual vocational system is not the outcome of conscious planning and development, rather it emerged from a complex historical and cultural process which form a connected whole. The development of the dual vocational training system date back to its root in the medieval period: even earlier to the ancient Roman and Greek world (Fürstenau*et al.,* 2014). At that time, apprentices worked

together with their master craftsmen in their workshops or travelled together with master merchants to trade and merchandise. The apprenticeship usually followed the so-called imitation or 'Majourm' principle that refers to the sequence of observation, imitation, autonomous accomplishment and customisation (Kell, 1995 in Fürstenau *et al.*, 2014). Due to the advancement in knowledge, technology and culture, schooling became necessary to prepare apprentices for job requirement (Pahl 2012, Reinisch & Gotzl, 2013 in Fürstenau*et al.*, 2014). During the medieval era, vocational training was administered in the workplace by the guilds (associations) that had the authority to certify trainees who took part in the training. Trainees were required to pass through different stages: apprentice, journeyman and master craftsman. Under the umbrella of the state-monitored Chamber of Craft, companies had the responsibility of organising, carrying out and monitoring apprenticeships (Gessler & Howe, 2015).

The late nineteenth and early twentieth century can be taken as the time for the founding phase of a dual system of vocational education and training in Germany (Gessler & Howe, 2015). The craft system of vocational education and training was decomposed because of the advent of a more liberal trade law, as fixed in the Trade Regulations in the Northern German Confederation. Such craft law was designed and enacted to prevent middle-class and small firms and traders from becoming the proletariat. The amendment made in 1897 recovered cooperate structures, and an apprenticeship model was developed comparable to that of the former system (Fürstenau*et al.,* 2014). Further education known as *Fortbildungsschule* focused on vocational subjects and was established at the same time (Fürstenau*et al.,* 2014).

Between 1920 and 1970, German industries tried to establish an apprenticeship model functioning under exclusive control of companies which brought the dual system of VET to the consolidation stage. Companies wanted to have highly qualified staff who can operate in more complicated systems of production that demand provision of instruction at specific venues (for example, apprenticeship workshop or factory schools), standardised courses, curricula and tests (Herkner 2013; Pahl, 2012 in Fürstenau *et al.*,2014). Industries could not implement their own apprenticeship model; instead, a new qualification type for skilled workers/technicians that compares with the level of assistant in craft was developed. Sincethe 1930s, the *Forthbildungsschule* have been renamed as Vocational Schools (*Berhfsschule*). In 1938, three years of compulsory VET was enacted endorsed by a comprehensive VET law in 1969 formulated by the Handicrafts Regulation Act (*Handwerksordnung*) in 1950 (Wahle 2007 in Fürstenau*et al.*, 2014).

The 1970s were characterised by rationalisation of the dual system. In 1972, inter-company vocational training centres were established to address the shortcomings of apprenticeships (Fürstenau*et al.*, 2014). The German dual system of training is entrusted to cope with integration problems of school leavers into the vocational education and training sector and support in combating problems of youth unemployment (Deissinger, 2015). There is high correlation between future career of the learners and training in the workplace. Trainees are engaged along the line of their respective occupation they are going to assume in the process of learning. Indeed, the German system of vocational education is a major pathway into skilled employment and also a crucial element of workforce development for companies, although it opens-up formalised progression to further training for potential employees (Deissinger, 2015).

There is a long standing and highly regulated participation of industry in the training sector: which certainly is an outstanding feature of the German education system (Noah & Ecksten, 1988 in Deissinger, 2015). Transferring the German vocational system of education to other countries, be it to developed nations or the developing world, is not advisable without being cautious of reservations and limitations. The reason for this is that the character of the dual system may be pinned down to five features which helps to understand that the German dual system of vocational education is more complex than the term 'dual' might suggest at first sight. The following points can be considered as the areas that need to be looked at critically: If dual VET training system be applied in one's own socio-cultural setting, it requires highly functioning economy and a sound labour market. Companies have developed a highly selective attitude when it comes to hiring apprentices. The success story of a dual education system could partly discontinue as academic pathways are becoming stronger and with them the kind of 'meritocracy' which traditionally characterises Anglo-Saxon education system around the world which is transition system and full-time courses in VET alongside apprenticeships (Deissinger, 2015).

From the above discussion, it is possible to conclude that vocational training learners are expected to acquire declarative conceptual knowledge. In enterprises, trainees are given the opportunity to acquire codified knowledge, skills need on the job, understanding of people, situation context and so on which magnifies the necessity of bringing different actors together. Countries have their own experiences concerning modes of vocational training. Some countries favour liberal training modality, others school based and countries like Germany, practise dual form of training. A dual system of vocational education and training is administered in the

socio-cultural contexts that recognise and support dual training system. However, the practice of cooperative training should take into account the context of the country.

2.5 COOPERATIVE TRAINING

The TVET system in Ethiopia has been designed like Germany's dual system of TVET training. Students are expected to spend 70% of their time in learning through doing (apprentice) in enterprises. TVET colleges are responsible for identifying enterprises (organisations) that can collaborate with them in the provision of hands-on training for TVET students (Assefa *et al.,* 2018). Cooperative training is designed to produce an effective and efficient workforce that possesses the necessary skills and competencies needed in the labour market by bringing all stakeholders on board. In the context of Ethiopia, the stakeholders are diverse in nature and operate under different Ministries. The commonest ones are Federal Job Creation and Food Security which falls under the Ministry of Urban Development, Small and Medium Enterprises Development where the Ministry of Labour and Social Affairs has the mandate for overseeing safety and social security of citizens working in industries. The federal TVET Agency, which used to operate under the Ministry of Education until recently, has been given the responsibility of managing skill training standardisation, occupational standard preparation, TVET institution licensing, graduate competence assessment and technology transfer (Assefa *et al.,* 2018).

Global experience suggests that it is important to create a coordinated TVET ecosystem. According to Assefa *et al.* (2018) in Vietnam and Malaysia, governments are responsible for coordinating the TVET ecosystem so that all stakeholders work in cooperation. Experience from Singapore also shows that the government delegates the Ministry of Manpower and in South Korean, the government also delegates the Ministry of Labour and Employment for this role. Such collaboration in general contributes to enhancing quality of the training being given by TVET colleges.

Cooperative training is a mode of education and training provided to students with close collaboration of enterprises and TVET colleges. It can be viewed as pragmatic in its approach as it is designed to equip students with problem solving skills in a logical and rational manner through open-mindedness to alternative solutions and willingness to experiment. Pragmatism involves getting the know-how and developing skills to engage in practical activity (Okoye & Chijioke, 2013). TVET in collaboration with enterprises are agents of human development,

social mobility and transformation. Hence, cooperative training helps trainees familiarise themselves with the workplace in addition to serving the learners as the place of learning to acquire necessary skills desired by enterprises. This means that cooperative training can be viewed as the means to transfer job-related knowledge, skills and attitude to TVET trainees which in turn contributes to enhancing the smooth transition from the school system to the world of work (Geda, 2016).

Enterprises are institutions primarily engaged in business such as the production of goods, the provision of services and serving as retailers. Students are enrolled at TVET colleges to get an education and prepare them for the world of work. Providing opportunities for students to visit enterprises is beneficiary in many ways. When training provided for students is amalgamated with apprenticeship, learners will vividly see the relationship between theory and actual practice and acquire hands-on practice. This in turn helps students value their education, become more motivated, broaden their employability and assist in future career decisions. Effectiveness of apprenticeship however is conditioned by the:

- commitment of enterprises to ensure access to high-quality placement.
- timeliness of the work experience and duration of the training,
- whether placement aligns with the career ambition of students,
- students are well-equipped with necessary knowledge and attitude,
- whether students are assigned to fairly challenging and varied tasks and
- proper provision of feedback and debriefing for students/apprentices (Buzzeo & Cifci, 2017).

Enterprises are encouraged to participate in the training process as their participation in TVET training is counted as their corporate responsibility, which is voluntary, and in their own interest (Geda, 2016). Enterprises have a vested interest and care about the quality of TVET training because they want to develop a highly competent and qualified workforce. Facilitation of the smoothing functioning of cooperative training is the mandate of TVET colleges and they are responsible for coordinating apprenticeship programmes in the industry through a cooperative training arrangement (Tirrusew *et al.,* 2018). Cooperative training has to offer opportunities for trainees to familiarise themselves with the world of work. The world of work can be industry, farm, businesses, service providing institutions, community-based organisations, public institutions or so forth. In cooperative training, learners are given the

opportunity to broaden their knowledge, develop their proficiency in hands-on practice and develop a positive attitude.

Cooperative training involves sustained partnership between TVET colleges and business organisations, industries, agricultural sectors, chamber of commerce, labour unions, community-based organisations, non-governmental organisations, public institutions and other stakeholders. Thus, TVET colleges are expected to forge and maintain partnerships between institutions that are engaged in manufacturing and/or service sectors so that the training is in line with the intended purpose. The partner organisations must develop joint planning to maximise the benefit of the trainees. The rationale behind developing joint planning has a lot to do with the purpose of the training. The purpose of collaboration between TVET and enterprises should emanate from the assumption behind TVET training. Altenburg (2010) has identified six important assumptions regarding TVET.

1. TVET has been designed to enhance the vocational faculty of an educated person. Vocational development is a lifelong process intended to build the capacities assuming vocational responsibilities: that is fulfilling the social and economic expectation both at individual and societal levels to provide services or produce products of values to themselves and others. Here, long term career development should be given priority over entry-level employment opportunity.
2. TVET has to be dynamic and be in a position to accommodate the dynamism exhibited in the workplaces and within the community so as to serve the need and interest of the society and global community at large. Thus, flexibility and adaptation in structure has to be envisaged so as to encourage connection between learning and work-based programmes and ideas in the long term.
3. Regardless of the uniqueness of one's own specialisation, fundamentals of knowledge in TVET exist that undergird all TVET programmes. A rigorous and coherent theoretical knowledge exists across all programmes.
4. Any change in TVET and the education system in general must be connected with some form of alteration in academic specialisations.
5. Strong connections between high-school curricula, TVET colleges and University education must be forged.

6. TVET should address the individuals, community and country's long-term economic and social development need and should not be over clouded with the short-term interests of groups, businesses or industries (Altenburg, 2010).

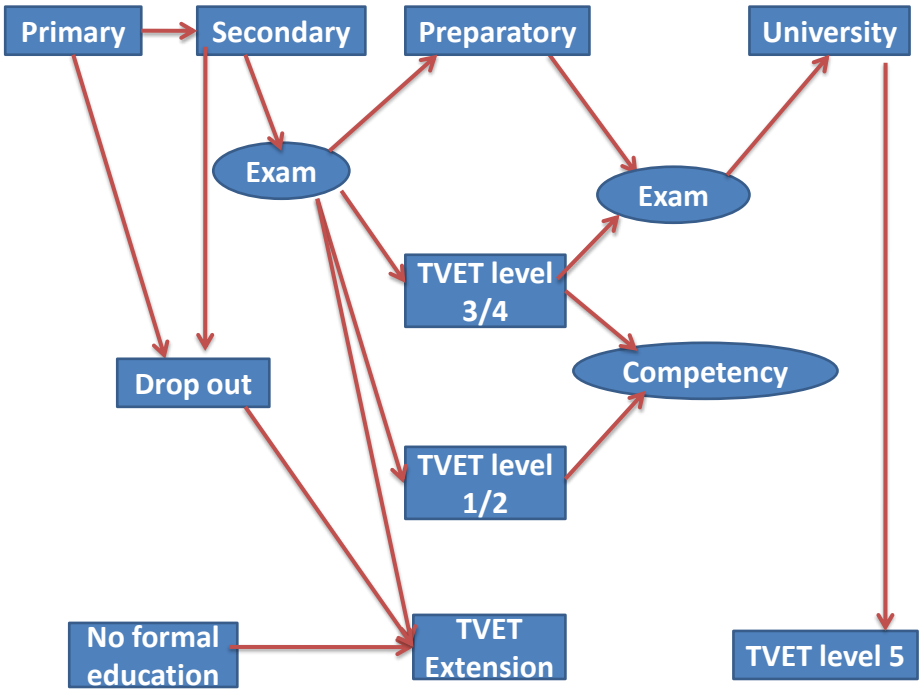
2.6 THE CURRENT STATUS OF TVET IN ETHIOPIA

TVET was introduced with the implementation of modern education in Ethiopia and has gone through series of developmental stages in line with the aspirations of successive governments. According to Assefa *et al*. (2018), in the 1970s, selected high schools were identified and converted into comprehensive high schools where students had access to both academic and vocational education. Since 1994, TVET has been considered as one of important forms of the Ethiopian education system and organised at agency level. Since then, the sector is entrusted to produce middle-level skilled manpower that can either be employed in production or the service sectors or be self-employed. To this end, government has invested in major resources to make TVET colleges accessible for the youth and able to make about 334 schools functional.

TVET institutions are organised to different levels: centres, colleges and polytechnics. The institutes that provide training from Level 1 to Level 2 are known as TVET centres. Those who run the training from Level 1 to Level 4 are known as TVET colleges. Institutes that provide training from Level 1 to Level 5 on the other hand are known as polytechnics. In order for students to pass from the lower level to the higher, trainees are required to pass the Centre of Competency (CoC) assessment which contribute to maintaining the quality of the training (Assefa *et al.,* 2018). Trainees who have attended TVET from Level I to Level 4 are known as craftsman. Those who completed Level 4 and Level 5 are known as technicians (Assefa *et al.*, 2018).

In Ethiopia, technical and vocational education and training (TVET) is institutionally separated from the rest of the education system and forms a parallel track. Students entering the TVET stream after completing grade 10 are eligible to enrol in a variety of options. The option they are given depends on the score receives in the national examination and the availability of the space in the respective colleges. Students can either be enrolled in for a year of training (10+1), two years training (10+2), three years' training (10+3) or four years' training (10+4). Students who complete three years of training after grade 10 are considered to have completed the first year of college and can join universities to complete their undergraduate degree. The students that attain Level 4 can also continue education and their level of education will be equated with

a diploma. Completion of Level 4 (four years training in TVET) is considered by some as an alternative route to university education.



Source: Learn4Work (2012)

Figure 2.2: Structure of education and TVET system in Ethiopia

The government of Ethiopia provides technical and vocational education and training to the youth and young adults, recognising its contribution to alleviate poverty, to enhance productivity of the youngsters, to mitigate problem of unemployment and underemployment. In Ethiopia, TVET is by and large, supply driven although the strategy stresses the importance of making the approach flexible to ensure effective delivery of the programme. The flexibility is meant to accommodate the need of individuals (demand side) to be enrolled in the programme of their choice, contents covered (the curriculum) in the training and the future need of the country (National Planning Commission, 2016).

In the Ethiopian Education system, there is an independent institution, the National Education Assessment and Examination Agency (NEAEA), that was designed to assess the performance of students centrally at national level. All Ethiopian students are required to take the national examination upon completion of grades 10 and 12. The examination prepared by the authority, is a multiple-choice assessment which is marked electronically. Only students who have passed the grade 10 national examination can enter into preparatory school (grades 11 and 12). Those

who fail the national examination can join TVET, Teachers Training Colleges, other training centres designed to produce paraprofessionals in the areas of agriculture, health, manufacturing sector or other sectors.

The minimum score achieved in the national examination is known as the cut point and is determined by the Ministry of Education (MOE) which varies from year to year depending on the intake capacity of universities in the country. Similarly, the cut point to enter TVET and other training institutes is also determined by the MOE based on the space available and the future manpower demand. Students who attended preparatory schools (grade 11 and 12) but did not achieve the minimum grade required to enter into university education can enrol at TVET colleges and students who have graduated from university can go to TVET colleges and be admitted to Level 5, as indicated in the figure above (Shaorshadze & Krishnan, 2013).

Students who are eligible to be admitted to TVET are invited to apply for the field of specialisation according to their preference. However, the assignment is done not only based on students' preferences, but also, by considering other factors like matching system at the regional level and college specialties. The numbers of spaces available for different trades are based on the government's prediction for future workforce need in the labour market. That is to say, the cut point for the number of places by specialisation changes yearly, based on student preference, future labour force demand and the number of places available.

The discussion paper produced by Assefa and his team (2018) identified the 1994 education and training policy and TVET strategy formulated in 2008, as milestones for the TVET sector. Since then, achievement such as ensuring access and equity, has been identified by the sector. Access and equity have been improved to a great extent by availing training opportunities for students both rural and urban, male and female and students with disabilities by opening up TVET colleges in districts as much as possible. Relevance and quality have been considered as another important issue in the system. As stated in the strategy (MOE, 2008), quality and relevance of TVET could be enhanced by making the system outcome based. The outcome of the training should be assessed as per the occupational standards (Shaorshadze & Krishnan, 2013).

Occupational standards are the competencies a graduate is expected to have developed in order to be considered as qualified in a given field. Occupational standards for all occupations are developed at national level by the federal TVET agency, who is responsible for organising,

facilitating and approving occupational standards (Shaorshadze & Krishnan, 2013). To do so, the agency forms a team of experts who have rich experience in respective occupations to set the required standards via consulting international occupational standards, in addition to their knowledge and experience in the area (Assefa *et al.,* 2018). In addition, the occupational standards, in collaboration with employing organisations and other stakeholders, are identified and clustered according to occupations in collaboration with the Ministry of Labour and Social Affairs and Civil Service Agency (Shaorshadze & Krishnan, 2013). To date, more than 670 occupational standards have been developed.

The curriculum of TVET is also an important issue on which the government has been working and it has been made outcome based with the mode of delivery being cooperative training. Learners are expected to spend 30% of their training in the technical and vocational colleges and 70% in the industry (enterprises). Another important development in the field that can be considered as a significant milestone is the establishment of a Centre of Competency (CoC). The centre prepares and administers an exit examination to determine competency of graduates at all levels (Assefa *et al.,* 2018).

Although much has been done by the government to revitalise the system so that it aligns with the current and the future need of the country, society has mixed feeling about TVET in that parent consider sending their children to TVET schools as a last resort because of the prevailing attitude towards the craftsmanship. Society favours white collar jobs but this route is limited to students who score good marks in the grade ten national exams and can follow the academic route. In many cases, TVET is considered as a destination for losers or academically poor students. It seems that there is belief in society that education and training in TVET is subordinate to the academic one. This seems to be as a result of society at large promoting academic achievement over craftsmanship (Assefa *et al.,* 2018).

2.7 ENTERPRISES IN ETHIOPIA

Ethiopia is still wrestling to bring about structural change moving from agriculture to industry and a service sector base, even though the share of GDP from agricultural output has been reduced only from 42% to 39% in five years (2009/10 - 2014/15) (National Planning Commission, 2016). During the same period, the industrial sector has registered an annual average growth rate of 20%with medium and large-scale manufacturing industries growing at the rate of 19.2% and micro and small industries registering an average growth rate of 4.1%

annually. The share of GDP earned from industrial sector has reached 15.1%, comprising construction 8.5%, manufacturing 4.8% and 1.8% earnings going to the other sectors like mining, hydroelectric and water (National Planning Commission, 2016).

In Ethiopia in 2014, there were 2758 medium and large-sized firms. Of the total manufacturing industries about 33% were situated in Addis Ababa and the surroundings, about 30% were in Oromia and 12% were in Amhara regional state (Central Statistics Authority, 2015). More than 27% of the manufacturing industries are engaged in the production of food products and beverages, about 24% of industries are engaged in non-metallic mineral production while 12% were in furniture production (Central Statistics Authority, 2015). Ownership of middle and large-scale industries are categorised as follows:

1. Government ownership – government is the main actor in production and supply of electricity, telecommunication, shipping and logistics, dry port and transport (especially air transport) and the enterprises are public (Meheret, 2014).
2. Private limited companies – share companies, private banks, mining and the like are PLCs.
3. Enterprises owned by Ethiopian by birth and foreign nation: this group of investors take the lion's share of private investment.
4. Foreign direct investment – this is mainly from the China, India, the European Union, India, Israel and other countries. Foreign direct investment by and large is concentrated in agricultural activities including floriculture, horticulture, meat and bio-fuel.
5. Independent Ethiopian entrepreneurs – in most cases, these are Ethiopian Diaspora. Most have accumulated capital and who have learned about business opportunities from abroad. Most of the tanneries, garment companies, shoe factories are owned by independent Ethiopian entrepreneurs (Altenburg, 2010).

Although due emphasis has been given to micro and small enterprises by the government in growth and transformation plan (GPT I) (2009/10 – 2014/15) due to its potential contribution for job creation, entrepreneurship and industrial development, it has not been found successful as planned. In GTP II (2015/16-2020/21), development of micro and small enterprises has been given greater attention considering its potential for economic development, nurturing the culture of entrepreneurship, combatting the problem of unemployment and poverty reduction. Small enterprises contribute in community development for their innate capacity to attract

entrepreneurs into the area that are seemingly less attractive and less developed (Weldeslassie *et al.*, 2015).

The Government of Ethiopia considers the private sector as an engine for economic growth and it commits itself to nurture industrialisation. In fact, the government claims itself as a 'developmental state' and is working on laying a foundation for long-term broad-based development. The Government considers micro and small enterprises as a vehicle to curb the issue of unemployment and realise broad-based development in the country. This sector is known mainly for self-employment (Altenburg, 2010). The EEA Research Brief (2014) depicted that the construction sector created employment opportunity for 36.7% of young adults, 20.8% in service sector, 15.2 % in trade, 14.7% in manufacturing, 13.1% in rural agriculture (EEA Research Brief, 2014).Employment opportunity in micro enterprises and informal sectors is growing much faster than the formal sector. In fact, employment opportunities in the informal sector have increased by 144% while employment in formal sector increased only by 16% in the year 1995-2005 (World Bank 2009, in Altenburg, 2010). This shows that training in TVET must play a role in enhancing entrepreneurship skill in youths.

In summary, the above topics tried to discuss theories of learning such as experiential learning, constructivist theory of learning and transformative learning, the basic concept of TVET, workplace learning, other countries experiences regarding cooperative learning focusing on Germany's experience. It also tried to conceptualise the interplay between TVETs and enterprises so that cooperative training could contribute to the provision of quality vocational training in the country. The effectiveness of the training in TVET colleges is dependent on the quality of training provided, cooperation of enterprises, and motivation of students, employment opportunities, society and the global community at large.

2.8 CONCEPTUAL FRAMEWORK

This section on the development of a conceptual framework for this study, discusses approaches of development that are seemingly competing: human development and capability approach. In the discussion, the researcher tries to explain that the two theories are not rivals as both focus on enhancing human capital. Another important aspect discussed is the interplay between education, training and development. The researcher tries to conceptualise the relationship between all actors who directly or indirectly affect quality of vocational training.

2.8.1 Human Capital Verses Capability Approach

Based on the review of the literature and experience of the researcher in the area of TVET, the need for skill development for employability is an important feature of education in all societies. Regardless of the level of economic and social development, education has been found to be a major factor since the beginning of time because work is fundamental for human survival and work-related skills need to be passed on to the upcoming generation (Willis*et al.*,2009). But, efficiency and effectiveness of TVETs are conditioned by a number of factors. Quality of training has to be up aligned with the level of expectation of different stakeholders.

The conceptual framework for this study, therefore, is built on relevant aspects from two established theories that are closely linked with education human capital and capability approach. While both approaches put humanity at the centre, the narrower view of the human capital approach fits into a more inclusive perspective known as human capability. The capability approach gives due emphasis to the well-being of human beings and their indirect role through facilitation of social change and promoting economic activity (Sen, 1997; Sen, 1999, in Clark, 2006: 292-7). Thus, the capability approach suggests that the main purpose of development is expansion of human capabilities rather than economic growth. While economic growth is necessary for development, it is not always enough.

The capability approach is more than a proposal and focuses on people's capabilities. It entails critical engagement with all social, cultural and other factors and shapes people's preferences, expectations and perceptions that influence people's choice (Unterhalter, 2003). The capability approach argues that the goal of poverty reduction should be expanded to free people from factors depriving them of enjoying life (Alkire, 2003). The key thing about capability is not that it criticises the income approach in ending poverty; it goes beyond and suggests an alternative space on how to conceptualise poverty to deal with it.

In the capability approach, freedom is concerned with the real opportunity of what people must accomplish and what they value. Sen (1999) argues that freedom has both intrinsic as well as instrumental value (in Alkire, 2003). The capability approach is therefore a psychosocial approach leading to a person's freedom of choice focusing on one's livelihood to increase happiness and fulfilment. The intrinsic value of freedom emphasises people empowerment, considering them as actors and creative agents of their own development (Alkire, 2003).

Youth unemployment is one of the pressing problems globally and it has grown over time with more than 35% of the total unemployed globally are youths (DeJaeghere, 2014). This figure is much higher in developing countries in general and in Africa in particular. This is the result of a number of factors among which is access to quality education. Inequality in terms of educational outcomes and access to sustainable work opportunities are highly problematic aspects (DeJaeghere, 2014). In the knowledge society of the 21st century, where information and communication is more easily accessible and the labour market is constantly changing, provision of relevant TVET for youth is vital to enhance employability of youths and foster sustainable development. It is an integral part of the total education programme and contributes towards the development of productive citizens by building their physical, social, civic, cultural and economic capabilities (Kennedy, 2011).

2.8.2 Education in the Capability Approach

Education plays several roles. Dreze and Sen (2002 in Robeyns, 2006) explain that it is important to satisfy the intrinsic need as a learner may value knowing something simply for the sake of knowing. It has an instrumental role and can serve either an economic or non-economic role. As far as the economic role is concerned, it can help a person find a job, be better informed as a consumer, be more able to find information on economic opportunities and so forth. Education can serve a collective purpose in that society can become enlightenment which could contribute to be a more tolerant society.

Human capital theory considers education as an important tool offering basic skills. It equips workers to be more productive thereby, contributing to earning salaries (Robeyns, 2006), particularly for people living in extreme poverty. However, the human capital model of education has several problems. Firstly, it overemphasises economic aspect by giving due attention to economic productivity and higher wages, ignoring the cultural, social and non-material dimensions of life. Secondly, it is entirely instrumental. It sees the value of education in terms of its contribution to increase economic productivity. Thirdly, conceptualising education only from an economic perspective compels one to compare investment in education with other alternative types of investment (Robeyns, 2006).

Education is a tool contributing to expanding human capability. Capabilities are the various functions that a person can attain, whereby functioning is the constitutive element of living, that is, doing and being (Robeyns, 2006). Capabilities represent the innate potential of everyone

to achieve various outcomes: what people are actually able to do. In the capability approach, education is important for both intrinsic and instrumental reasons (Brederck, 2018), which means that people should be able to make choices that matter to them. Capability refers to the alternative combination of functionings that are feasible for a person to achieve (Nussbaum, 2011). Capability can also be considered freedom to achieve alternative functioning combinations (Nussbaum, 2011). In education, capabilities are viewed as complex outcome for it is concerned with a dynamic relationship between opportunity and outcome or capabilities and functioning (Walker & Unterhalter, 2007). Functionings are various modes of existence that signify the roles that persons perform or the tasks that they complete (Dalkilic& Vadeboncoeur, 2016). Functionings are an achieved outcome such as operating a machine, using a sewing machine to make clothes and even taking part in the social life of a community through attending a meeting through utilising the knowledge and skills and proving one's developing capabilities. The difference between capability and functioning is the opportunity to achieve and the actual achievement (Dalkilic & Vadeboncoeur, 2016).

Freedom and agency are important concepts that require clarification as they are central to the capability approach. People are considered active participants in development, not spectators. In education, we are the agents of our own learning, the agents of success or failure. Getting involved in shaping one's own life and having opportunities to reflect on it, is critical for positive social change. Intrinsically, agency is important for individual freedom and also instrumental for participation and collective action (Sen, 1999 in Walker &Unterhalter, 2007). Thinking of oneself as an agent whose actions count does not happen overnight. It is a process of both being and becoming (Alkire, 2002in Walker & Unterhalter, 2007). When looking at agency, one should ask if different learners are recognised socially as having equal claims on resources and opportunities. Regarding opportunities, Nussbaum (2000) points out the difficulty with 'adapted preferences', stating that learners' preferences are shaped by society and public policy. Unequal social and political circumstances lead to unequal chances and unequal capacities to choose. External factors affect the inner lives of people: what they aspire to, what they go for even what they able to do. People's choices are deeply shaped by the structure opportunities available so that a disadvantaged group comes to accept its status within the hierarchy even when it involves a denial of opportunities People adjust their hopes to their probabilities in that their agencies and well beings are diminished rather than enhanced (Walker &Unterhalter, 2007).

Access to educational opportunity and the development of an education capability expands humans' freedom and in contrast, lack of access to educational opportunity negatively affects human development and choice and having a full life. Sen (1999) argues that education fulfils an instrumental role for it foster the economic, social and cultural role of the individual in society (Walker & Unterhalter, 2007). Education has an empowering effect in facilitating the ability of the disadvantaged, marginalised and excluded to politically organise and redistribute between social groups, households and within families (Walker & Unterhalter, 2007). Thus, education in general and vocational education in particular, has an interpersonal effect which in turn contributes to social good and democratic freedom.

It is important to give due attention to the content and notion of education as it contributes in enhancing the capability of individuals: it expands human freedom, agency and empowerment. Nussbaum (2011) states that education is important in enabling learners to make genuine and valued choices, such as the choice to exit from a traditional means of production and/or provision of service (Walker & Unterhalter, 2007). She concedes that one cannot develop mature adult capability without having some practice, therefore, there is a need to promote a relevant capability by requiring the functioning that nourishes it (Nussbaum, 2000 in Walker & Unterhalter, 2007). When discussing student learning, one need not to consider only capabilities but also functionings. Thus, facilitators need to know if and how capability is being developed and under what condition as well as how this relates to capabilities. Addressing the problem of learners' capabilities and functionings raises issues about the content of education capabilities (Dalkilic& Vadeboncoeur, 2016).

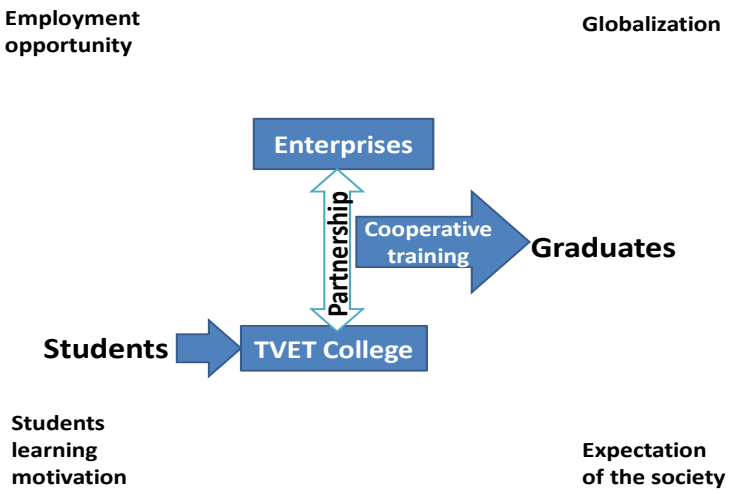
In conclusion, the topic discussed the very concept of education from capability perspective as it helped to view complex outcome of education and training for it is concerned with a dynamic relationship between capabilities and functioning. Human development and the capability approach the two approaches that can be viewed as complementary theories of human development. The difference is that human capital is narrower as compared to the capability approach.

2.8.3 Interplay between Education, Training and Development

Education and training for sustainable development is a process of learning how to make decisions that consider the long-term future of the economy, ecology and equity in the workplace and wider community (UNESCO, 2006). Building competencies and commitment

of trainees needed for future-oriented thinking is a key task of technical and vocational education and training (TVET) for sustainable development. TVET is regarded as a very important tool if education has to be accessible to the large mass, since development for employability is a major motivator for people to become functionally literate, self-reliant, productive and engaged in lifelong learning (Willis*et al.*, 2009). As far as the issue of accessibility of vocational and technical education and training is concerned, Ethiopia aims at enrolling 80% of high school completers in this sector of education. The country is working systematically to bring about structural change: the country is striving to change its economy from agriculture to an industry-led economy. In GTP II, the country aspires to become one of the industry-led economies which demands that the majority of the workforce are craftsmen and technicians.

In Ethiopia, the provision of vocational education is not only the responsibility of TVET colleges. Different stakeholders come together and work in collaboration. The global community, society, governmental organisations, non-governmental organisations, enterprises, students and TVET colleges have their own contribution for successful provision of the training. Hence, this research focuses on exploring the implementation of cooperative training at TVET, as depicted in Figure 2.2.



(Source: The researcher)

Figure 2.3: Visual representation of the conceptual framework of TVET

Figure 2.2 depicts how different stakeholders influence one another and their roles are interwoven for the smooth functioning of the system. Students who are registered for the

programme get theoretical knowledge from TVET colleges. Thereafter, they are attached to enterprises to put the learnt theory into practice, acquire and develop practical skills and familiarise themselves with the world of work. As has been seen in the figure above, the graduate profile is influenced by not only the status of TVET colleges and enterprises, but also by the motivation of students, employment opportunity, the expectation of society and global actors.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

In this chapter, research paradigm, the research design and methodology used in the study has been discussed in detail. The content incorporated the research design and paradigm, study areas, population, sample and sampling strategy, methods of data collection (questionnaire, semi-structured interview, and observation), research process, data analysis, measures of trustworthiness, ethical consideration and conclusion.

3.1 RESEARCH PARADIGM

Research, the art of scientific investigation, is a systematic and scientific process to get a broader understanding of specific issue (Kothari, 2004). Although research is the process of searching for new knowledge and understanding, researchers have different philosophical orientations about the world and its nature that a researcher brings to a study (Creswell, 2018). The most common worldviews are positivism, interpretivism and pragmatism.

Positivism is one of the dominant worldviews that focuses on causal explanations and prediction of future behaviour. Positivism is an epistemological doctrine which believes that physical and social reality is independent of those who observe it and that observations of this reality if unbiased, constitute scientific knowledge (Kivunja & Kuyini, 2017). Positivist researchers employ linear methods of data collection and analysis, characterised by neutrality, objectivity and acquisition of huge data. Such design is appropriate when the primary purpose of the research is to explain or evaluate (Leavy, 2017). The data are gathered and analysed quantitatively (Kivunja & Kuyini, 2017). Positivism has its own limitation because its application to the study of human behaviour is complex, intangible and contrast with the order and fails to take into consideration individuals' ability to interpret.

Interpretivism can be viewed as an outcome of the total rejection of the belief that human behaviour is governed by universal laws characterised by underlying regularities (Creswell, 2014). They argue that individuals' behaviour can only be understood by the researcher sharing their frame of reference. Individuals' interpretation of world around them has to come from the inside, not the outside. Thus, interpretivism believes in the subjective approach of dealing with experiences rather than objective (Guba & Lincoln, 2005). The interpretivist paradigm aligns

with research methodologies and methods that gather and analyse qualitative data (Kivunja & Kuyini, 2017). However, interpretivism can be criticised for its narrowly micro-sociological perception.

Pragmatism arises out of actions, situations, and consequences (Creswell, 2014). It advocates the use of both qualitative and quantitative research methods according to need. Research conducted within this paradigm draws on methodologies taken from both these fields (Kivunja & Kuyini, 2017). Pragmatism gives greater freedom to the research to choose methods, techniques, and procedures that helps to meet the need and purpose (Creswell, 2018). Within the pragmatist paradigm, the researcher can utilise a combination of both the positivist and interpretivist paradigms to offset the limitation of the either type of the research and get complete answer to a research question. Pragmatism helps to shed light on how research approaches can be mixed fruitfully and offer the best opportunity for answering important research questions. It uses rigorous methods of data collection, analysis and interpretation in that both qualitative and quantitative data are integrated in explaining the issue under scrutiny (Creswell & Creswell, 2018).

3.2 RESEARCH DESIGN

The research design used in this study employed a mixed methods research design which is a combination of quantitative and qualitative methods. The rationale behind the utilisation of mixed methods research emanates from its contribution in combating the limitation of either type of research: quantitative data address the need for coverage of many individuals while qualitative data helps to get insider information and deeper understanding (Creswell, 2012). As Johnson and Onwuegbuzie (2004) explain that the qualitative approach is more appropriate in some situations while the quantitative is appropriate in others. According to Creswell (2012) in qualitative research literature review might not play major role, instrument of data collection is prepared broadly and adjusted to the level of participants experience, number of participants are generally small so as to obtain their views and it helps to explore the problem and develop detailed understanding of a given phenomenon. Quantitative research on the other hand, describe problem using trend analysis, give due emphasis for literature, collect numeric data from large number of respondents using preset questions and helps to write standardized report objectively. The two approaches are not dichotomous: they rather represent different ends of a continuum (Newman & Benz, 1998 in Creswell, 2009).

Mixed methods research gives the researcher the opportunity to use the strength of both quantitative and qualitative research in that it helps to integrate, comprehend and understand complex issues from different angles (Meixner & Hathcoat, 2018). Quantitative data involve relatively large number of people and helps to describe their view statistically while qualitative data helps to elicit the view of key informants which might help the researcher develop different perspectives on the study and provide a complex picture (Creswell, 2012). In many scenarios, researchers who use mixed approaches can put together insights and procedures from both approaches to come up with credible and reliable findings. That is to say, if the finding is substantiated across different approaches, the likelihood of acceptance of the conclusion could increase. If the findings contradict each other, the researcher would get greater knowledge and can modify the interpretation and conclusions accordingly. In many cases the goal of mixing is not to search for corroboration but rather to expand one's understanding (Onwuegbuzie and Leech, 2004 in Johnson and Onwuegbuzie, 2004).

That does not mean either of the approaches have no contribution to authenticate the other one. In fact, quantitative findings can be validated by referring to information extracted from the qualitative phase of the study, and vice versa (Onwuegbuzie & Leech, 2005).Pragmatic researchers are able to merge the two within a single investigation because quantitative research is typically motivated by the researcher's concerns, whereas qualitative research is often driven by a desire to capture the participant's voice (Onwuegbuzie & Leech, 2005).

There is a distinct tradition in the literature on social science research methods that advocates the use of mixed methods. Green, Caracelli and Graham (1989) outlined the following five broad purposes of mixed methodological studies: (a) triangulation for it enhances convergence and corroboration of results obtained from different methods; (b) complementarity for it reinforce elaboration, illustration and clarification of the results from one method with the results from the other method; (c) development in that results from one method to help inform the other method; (d) initiation by discovering paradoxes and contradictions that lead to reframing of the research question; and (e) expansion of the breath and range of inquiry by using different methods for different inquiry components (Onwuebuzie & Leech, 2005).

Researchers who use mixed approaches can integrate insights and procedures from both approaches to come up with credible and reliable findings. However, the integration of results obtained from qualitative and quantitative methods is not easy. According to Creswell and

Creswell (2018), there are different ways of merging the results obtained. One of the approaches is side-by-side comparison. The research that uses this approach could report the statistical result and then discuss qualitative findings either to confirm or refute the statistical results. The other option would be to start writing up the qualitative findings and comparing them with quantitative results. It is also possible to merge the information collected by quantitative and qualitative methods by transforming qualitative themes into quantitative variables and then combining the two databases known as data transformation. The third alternative involves merging the two forms of data in a table or graph that is known as a joint display of data. The table is designed to show the vertical and horizontal axis of a graph where vertical axis might show the key concepts (questions) and the responses obtained using quantitative and qualitative responses into two separate columns to be displayed in the horizontal axis (Creswell & Creswell, 2018). In the discussion, the researcher compares the results obtained by qualitative and quantitative data and notes whether there is convergence or divergence between the results found from the two sources of information. The comparison might not yield a clear convergence or a divergent situation, and differences that exist in some cases must be stated as a limitation of the study.

In this study, the researcher used a convergent mixed methods design which is a single-phase approach. Both quantitative and qualitative data were collected simultaneously, but the data were analysed separately, and the results were compared to ascertain if the findings confirmed or refuted each other (Creswell & Creswell, 2018). The approach provided the opportunity to collect different types of information that assisted in eliciting the views of the participants qualitatively to compare with the finding of the data collected quantitatively. Figure 3.1 below explains the process followed.

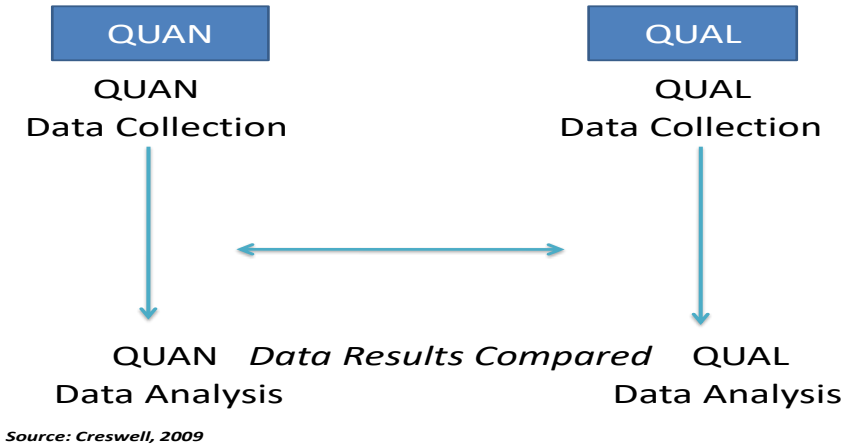


Figure 3.1: Concurrent triangulation design

3.2.1 Study Areas, Population, Sample and Sampling Strategy

The study explored the implementation of cooperative training in TVET colleges which involves TVET-enterprise partnerships to deliver quality training in TVET colleges in Oromia regional state. In Oromia region, there are more than 147 TVET schools working at college level. The region is subdivided into nineteen administrative zones. Of the nineteen zones, four zones were selected purposively considering geography, lifestyle of the community in the area, variation in concentration of industries and related issues. Accordingly, East Showa was chosen from the area where industries were relatively highly concentrated. The three Zones namely West Showa, Jimma and West Hararge Zones were chosen from the area where numbers of industries were either limited or non-existent.

The study was conducted with 247 participants comprising TVET college students, industries, TVET teachers and TVET college vocational counselling and guidance office heads and enterprises focal persons. Participants were purposefully sampled from eight TVET colleges (two colleges from each zone) and two enterprises with the sample being directed at colleges providing training at least up to Level 4 and enterprises involved in cooperative training. Of the 247 participants, 80 teachers and 150 students were chosen using a multistage sampling approach in that stratified and systematic random sampling techniques to fill in questionnaires. Stratification has been made to determine number of teachers and students to be considered from each Zone TVET Colleges and systematic sampling technique has been employed to choose both teacher and student respondents. Five vocational counselling and guidance office heads, two enterprise focal persons were selected for the interviews and ten students for focus

group interviews using purposive sampling techniques. Table 3.1 illustrates the sampling for this study

Table: 3:1 Summary of sample and sampling strategy

Responsibility	**Zones (Sub-county)**					**Sampling technique**
	West Showa	East Showa	Jimma	West Hararge	Sub-Total	
TVET Vocational Counselling and Guidance Office Heads	2	2	-	1	**5**	Purposive sampling
Enterprise focal persons	2	-	-	-	**2**	Purposive sampling
TVET Teachers	20	20	20	20	**80**	Multistage sampling
TVET Students	4	4	-	2	**10**	Purposive (Group interview)
TVET Students	37	37	38	38	**150**	Multistage sampling
Total	**65**	**65**	**61**	**61**	**247**	

3.2.2 Methods of Data Collection

The objective was to provide an in-depth exploration and explanation of how TVET college-enterprise linkage contributes in enhancing the quality of TVET college training programmes and try to seek the possibility of improving it so as to satisfy the need of trainees. The researcher used a variety of instrument of data collection in an attempt to triangulate the data. Triangulation of data converges, corresponds and corroborates the results collected using different ways of the same phenomenon. Using different data collection instruments boosts the credibility of the research finding (Johnson & Christensen, 2014). Accordingly, a questionnaire, semi-structured interviews, direct observation and secondary sources of data such as policy document, books, and web information were used as the instruments of data collection.

3.2.2.1 Questionnaire

The questionnaires were used to collect data from 150 trainees and 80 teachers (Appendices D and E). The questionnaire is a self-reporting instrument in that participants are invited to fill out the questionnaire independently (Johnson & Christensen, 2014). It is a well-established tool of data collection in educational and social science research for acquiring information from participants regarding their attitude and beliefs and reasons for believing in a certain way about the issue under investigation (Bulmer, 2004). Using a questionnaire is advantageous because it is less costly and large numbers of participants can be involved in a relatively within a short

period of time. The response obtained using questionnaire is free from bias as the respondents are allowed to give feedback by themselves. Respondents are given enough time to provide well thought-out answers (Kothari, 2004). The impersonal nature of a questionnaire ensures some uniformity from one measurement situation to another. Participants also feel more confident because of their anonymity, and they feel freer to express views which they fear might be viewed negatively by the authority. The questionnaire has its own demerits in that the response rate is relatively low and it is difficult to amend the questionnaire to suit the respondent once it has been dispatched. In addition, respondents might provide ambiguous replies or might not respond to certain questions (Kothari, 2004).

3.2.2.2 Semi-structured interviews

Semi-structured interviews were used to collect data from five vocational counselling and guidance office heads, two enterprise focal persons and 10 students for group interviews (see Appendices F, G and I). Semi-structured interviews are advantageous because they allow the researcher to prepare questions ahead of time so that the researcher appears competent during the interview. They also allow informants the freedom to express their views in their own terms and provide reliable and comparable qualitative data (Cohen &Crabtree, 2006; Rabionet, 2011). Creswell (2012) also suggests that the interview is advantageous because participants are offered the opportunity to provide useful information that cannot be easily observed. The researcher also raises probing questions to elicit detailed information. Semi-structured interviews have been used to establish a variety of opinions concerning a topic. They are often used to form tentative hypotheses about the motivation, underlying behaviour and attitudes (McIntosh & Morse, 2015). However, interviews do have drawbacks. The researcher might filter and summarise participants' view. The data obtained might be deceptive because the interviewees sometimes provide information the researcher wants to hear. The presence of the researcher might affect how the respondents respond. In addition, the interview also requires the interviewer to be competent and well experienced (Creswell, 2012).

In this research, the researcher entered the interview with a well-designed interview guide (see Appendix F, G, H & I) aiming to collect information from the interviewee on the nature of TVET colleges' industry linkage (Johnson & Christensen, 2014). This helped to discover the experience of the participants in the area. Epistemologically, the qualitative interview assumes that participants are 'knowers' (McIntosh & Morse, 2015). Semi-structured interviews were

used to examine the effectiveness of cooperative training administered with regard to TVET college and industry linkages.

3.2.2.3 Direct Observation

The researcher utilised observation to collect information from eight TVET colleges and two industries while the training was taking place to examine the effectiveness of the overall programme and to observe how the linkage helps to enhance the effectiveness of cooperative training (Appendix C). Observation is one of the common methods of data collection in behavioural sciences. It is the process of gathering first-hand information by the researcher at the research site (Creswell, 2012). Observation is appropriate for collecting data on naturally occurring behaviour in that the researcher gathers information from one's own observation instead of seeking it from the respondents. Observation allows the researcher to obtain a holistic understanding of the phenomena under the study and helps to check for nonverbal expressions of feeling (Schmuck, 1997 in Kawulich, 2005). Observation also confirms if the actual behaviour is in agreement with the information obtained from the key informant during the interview session (Kawulich, 2005). According to Kothari (2004), observation is advantageous because firstly, it helps to minimise subjectivity. Secondly, the information obtained by observation can be compared with what is taking place on the ground and cannot be confused with past behaviour or future intention. Thirdly, participants' cooperation and active involvement might not be required as mandatory in interviews or questionnaires. As such, observation can provide rich, detailed description, unconstrained by predetermined concepts and categories. It is particularly useful to describe the complexity of the phenomenon under study, to generate hypotheses and determine the relationship between different factors (Mansell, 2011).

That does not however mean observation is free of any sort of limitation. Using observation as a method of data collection is very costly and only limited information can be gathered using this method. Unforeseen factors might interfere with the observational task (Kothari, 2004).

3.3 THE RESEARCH PROCESS

The first step was seeking clearance from Oromia TVET agency in order to meet the ethical and legal requirements in the region. The clearance letter has been used to get legal access in the research area. The researcher used the first week to get the general understanding of conditions of the area and how things function. The second step was embarking on the

collection of information using the questionnaire, conducting interviews and focus group discussions and conducting observation.

3.4 DATA ANALYSIS

As the study employs a convergent mixed methods research design, the data collected using a questionnaire, semi-structured interviews and observation helped to triangulate analysis of the data. In order to determine if cooperative training contributes to the enhancement of quality of the training and the contribution of TVET-enterprise partnerships, the researcher collected the data from students and teachers using the questionnaire. The questionnaire consisted of 30 questions for students and 35 questions for TVET teachers (see Appendices D and F). The questionnaires were designed on a 5-point Likert Scale with respondents being given the opportunity to express their opinion either favourably or unfavourably to each item: the respondent stated his/her own agreement or disagreement on each statement (Kothari, 2004). Each response was given a numerical score and scores are summed-up, analysed and interpreted. Hence, the five-point scale ranged from 1 to 5 (1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=disagree), with the mean score being considered as unfavourable when it was less than or equal to 3 and favourable when it was greater than 3 (unfavourable≤ 3; favourable> 3). Then after, the data has been tabulated and the mean value and frequency has been computed and analyzed.

For the qualitative part of the research, the researcher recognised that carrying out the interviews and observations meant transcribing and analysing side by side. Analysis of the qualitative part involved six steps known as preparing and organising the data, exploring and coding the data base, describing findings and forming themes, representing and reporting findings, interpreting the meaning of the findings and validating the accuracy of the findings (Creswell, 2012). Accordingly, the researcher organised the data collected by creating a matrix taking into account the responsibility of the interviewees and the location. As part of the transcription of data, the researcher listened to the tape recordings repeatedly and then transcribed them verbatim. Field notes collected during observation were also used. The transcribed data were well explored to get a better sense so as to code the data thematically. “Coding is the process of segmenting and labelling text to form description and broad themes in the data” (Creswell, 2012: 243). The themes were grouped under different sub-headings for

analysis and then carefully interpreted and checked. Finally, the attempt was made to link subheadings with the theoretical construct and research questions.

As discussed above, a mixed methods research design which took advantage of the strength of qualitative and quantitative research was employed. The decision was taken as the problem was quite complex and needed the involvement of different stakeholders. As a convergent mixed methods research design was followed, the researcher analysed quantitative data and qualitative data separately and compared the results. Bringing together the analysis done quantitatively and qualitatively is known as integration of the findings. The assumption behind analysing the data collected qualitatively and quantitatively was that the result yielded by the two approaches should be the same (Creswell & Creswell, 2018). The researcher employed side-by-side comparison as an approach in the process of discussion of the findings. As such, quantitative results are discussed and then qualitative findings either confirm or refute the statistical results.

3.5 MEASURES OF TRUSTWORTHINES

As the research was a convergent mixed methods research design, where both qualitative and quantitative data are collected side by side, validity should be based on establishing both quantitative and qualitative validity (Creswell, 2018). Validity determines whether the research truly measures what it is intended to: how far the finding could be dependable and trustworthy (Zohrabi, 2013). Validity can be defined as an overall evaluative judgement of the extent to which empirical evidence and/or the theoretical rationale support the adequacy and appropriateness of interpretations and actions on the basis of data generated via any means. Reliability is about stability of the findings (Haradhan, 2017). Reliability can be defined as the extent to which results are consistent over time; the degree to which a measurement carried out repeatedly remains the same; and, the stability of a measurement over time (Haradhan, 2017). Reliability and validity are very important for they contribute to enhance accuracy of assessment and evaluation of a research work. Validity can fairly be divided into two as internal and external. Internal validity seeks to demonstrate that explanation of a particular event, issue or set of data generated can actually be sustained. To some degree, this concerns accuracy which can be applied to quantitative and qualitative research. External validity by and large focuses on generalisability of the finding to the wider population, cases, or situations (Cohen *et al.*, 2007:135).

The researcher attempted to ensure validity and reliability at different phases of the research and using different instrument of data collection from the beginning of data collection to data analysis and interpretation. Within the mixed methods research design, the researcher utilised a 5-point Lickert scale questionnaire, interviews, observations and document analysis. To this end the researcher used carefully developed instruments of data collection and used rigorous steps to determine participants of the research. The researcher started with the determination of population of the research and TVET colleges and enterprises located in a specific area were chosen in line with the purpose of the research. Teachers and students were selected from the selected TVET colleges to fill in questionnaire using multi stage purposive sampling technique and key informant interviewees were sampled using a purposive sampling technique from the management of vocational schools, students and enterprises focal persons.

Onwuegbuize and Johnson (2006) discussed nine points that needs to be considered by the researcher to legitimise mixed research to form meta-inference. These nine points of legitimisation are sample integration, insider-outsider view for the purpose of description and explanation, compensation of weakness of one approach by the strength of the other one, reversing the sequence of the quantitative and qualitative phases, conversion (the extent to which the quantitising or qualitising yields quality meta-inferences), paradigmatic mixing, commensurability, multiple validity, and political legitimisation. Of the nine legitimisation types, the study tried to tackle issue of sample integration, insider-outsider view, weakness minimisation, conversion, paradigmatic mixing, and multiple validities.

Sample integration is one of the important issues that needs due consideration to balance the relationship between a quantitative and qualitative design to determine sampling scheme and sample size. Regarding sample integration the research took into consideration statistical generalisations so that population of the research is represented by the findings of the study. Concerning insider-outsider legitimisation, the researcher shared the analysis and interpretation of the study with another researcher/outsider and gave participants/insider the opportunity of assess the analysis and interpretation and the relationship between the data and the conclusions. As scholars in the area believe mixed methods research helps to offset the limitation of the either type of research, the researcher assessed the potential strengths and weaknesses of quantitative and qualitative research and used the strength of both types of the research to minimise the weakness of the study (Onwuegbuzie & Johnson, 2006) as the more the weakness

of one approach is compensated by the strength of another approach, the probability of high quality meta-interference could be greater(Onwuegbuzie & Johnson, 2006).

Applying the above mixed-methods legitimation types to this study, a relatively large sample was selected for both quantitative and qualitative designs. Similarly, the perceptions of participants concerning the implementation of cooperative training TVET colleges in Oromia Regional State are captured. Finally, quantitative analysis is combined with qualitative analysis of data to improve the interpretation of the findings in addition to triangulation, participants check and peer-scrutiny of the research project.

3.6 ETHICAL CONSIDERATIONS

Ethics are the principles and guidelines that help to uphold things we value (Johnson & Christensen, 2014). Scholars have different views about ethics: for some it is deontological, others are sceptical and still others view at it from utilitarian perspectives. Deontologists believe that ethics is a universal code and certain actions are inherently unethical and should not be performed under any circumstances. For example, Baumrind (1985 in Johnson & Christensen, 2014) used the deontological approach to argue the inappropriateness of deception because lying to the participants goes against the informed consent. Ethical scepticism refrains the fact that ethical rules are universal: they say that ethical decisions are subjective and should left to the researcher's judgement/individual conscience. Utilitarianism on the other hand weighs the ethics depending on the consequences the study has for the participants and the larger benefit that might arise from the study results (Johnson & Christensen, 2014).

The ethical issue is very important, and it has to be considered from the beginning. Ethical consideration should be foremost in the mind of the researcher because the topic of the study is attached to a certain value which is the understanding of both the participants of the study, issues under scrutiny and its potential impact. Involving participants of the research in every aspect of the study requires ethical decisions (Leavy, 2017). How to decide the group of people for the study, determination of the potential participants, the way the researcher communicates the participants of the study, how to disseminate finding of the research and related issues needs decisions and every decision the researcher makes have to be ethically sound. According to Leavy (2017), ethical issues contain philosophical, praxis and reflexivity dimensions. Philosophical dimensions focus on the value system of the researcher. A researcher like any other person has his/her own beliefs, attitudes and ideas about the world which affect the world

in one or another way. The value a researcher has is not only developed in the mind but also, in the social context. The praxis aspect gives emphasis to what the researcher does. What a researcher does as far as the research design and execution is concerned is affected by the research agenda which is largely influenced by the researcher's belief. As Ellis (2007 in Leavy, 2017) states, praxis has three subcategories known as procedural, situational and relational ethics. The reflexivity element of ethics is the combination of the value and praxis and focuses on describing the power relationship. The key issue here is how the researcher reflects his/her position as a researcher.

Hence research ethics is an important issue in the study, as the researcher should give due attention to the relationship between society and science which is designed to weigh societal and cultural values as well as professional issues aimed at avoiding research misconduct and the treatment of participants. Accordingly, the researcher adhered to UNISA's ethical guidelines and applied for ethical clearance from the university (see Appendix A). Permission was secured from Oromia TVET agency to conduct the research. The researcher also obtained permission from the TVET offices of each respective Zone. All participants of the study were assured of confidentiality by signing a consent form which included an agreement of confidentiality.

3.7 CONCLUSION

To sum up, the research design and methodology employed in the study was a mixed methods research design. In line with this, the sample and sampling technique were also discussed thoroughly and was determined to collect information from 247 participants. Of the total, 150 were college TVET students, 80 were TVET teachers, five TVET college vocational counselling and guidance office heads, 10 students were considered for focus group discussion and two were focal enterprise persons. Instruments of data collection employed were questionnaires, semi-structured interview; focus group interviews and direct observation were also discussed in this chapter. Methods of data transcription, analysis and interpretation were explained. Ethical issues were also given due attention as part of the research design and methodology road map.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

This chapter focuses on the analysis and interpretation of data collected using questionnaires, interviews and observation. As the research employed a mixed methods research design, the data were analysed both qualitatively and quantitatively. The first part of this chapter focuses on the qualitative aspect of the research and the second part was on the quantitative. Qualitative data were collected using interviews, group interview and observations.

4.1 ANALYSIS AND INTERPRETATION OF QUALITATIVE DATA

In this section, the findings emerging from the analysis of data collected from vocational counselling and guidance office heads, enterprise focal persons and students are reported

4.1.1 Analysis and Interpretation of Data from VGCOHs

The themes emerging from the analysis of qualitative data gathered from Vocational Counselling and Guidance Office Heads (VGCOHs) and presented below include the status of TVET colleges, the rapport between TVET colleges and enterprises, awareness and implementation of cooperative training guidelines, enterprise participation in the preparation and execution of the plan, Infrastructure used in TVET colleges and enterprises, comparison of the number of students with the number of enterprises, readiness of enterprises to host students for cooperative training, time spent in enterprises for cooperative training, enterprise perception on the competency of students, contribution of enterprises for success of cooperative training, experts' dilemma regarding experience sharing, enterprise participation in the process of assessment, budget allocation for cooperative training and compensation provided to enterprises for their participation in cooperative training.

4.1.1.1 The status of TVET colleges

Vocational education and training needs practical engagement of students as it focuses on the acquisition of new skills in order to become skilled practitioners in the area of their specialisation. This requires infrastructure and necessary inputs to help learners acquire their skills and develop them through hands-on practice. In line with this, the researcher tried to look

at the view of Vocational Guidance and Counselling Office Head interviewees in the research area.

The majority of the respondents replied that TVET programmes were facing serious budget and resource constraints. As reported by Interviewee #VCGOH2, 2021 TVET colleges were providing training using old training materials and very little effort was being made to maintain and expand classrooms and workshops utilised for training. In fact, there is mismatch between the number of students and accommodating capacity of the colleges. The class size, according to the Ministry of Education, was expected to range between 25-35 students for hard skills (MoE, 2008). But ss #VCGOH2 (2021) said, *"Numbers of students attended per a class ranges between 35-45 which puts strain on the process of teaching and learning and in terms of utilisation of resources"*. Of importance is that the numbers of students are high and training equipment was not functioning properly and there was a shortage of relevant materials.

The findings reveal that many colleges suffer from budget constraints and other bureaucratic factors and as a result, are not able to purchase the necessary training materials nor get the equipment repaired on time to run workshops as required. It seems that colleges have little funds required to run the training programme properly (Interviewee #VCGOH2, 2021).The observations revealed that workshops were in a very poor condition and the training materials were old, as depicted in the pictures below.

Only Adama TVET College was fortunate to have a workshop of an adequate standard and secured financial support, as Interviewee #VCGOH1, 2021 confirmed. He explained that the budget provided by the government was very small and really not sufficient. However, Adama College had installed new machines in their workshops (construction, garment, manufacturing, electrical shop, automotive, furniture making and ICT) donated by German development partner known as GIZ. In addition, the college was financed to purchase raw materials and other accessories to provide quality training for students to run the cooperative training programme effectively. However, Adama TVET was also suffering from budget constraints to run the training effectively (Interviewee #VCGOH1, 2021).

4.1.1.2 The rapport between TVET colleges and enterprises

TVET colleges and enterprises are assumed to be partners to successfully run cooperative training. However, there needs to be proper communication and good rapport. Concerning communication, it has been learnt that TVET colleges were not on the same page. In the case of Ambo TVET colleges, the issue of communication was left to individual instructors. The institutions were not coming together to reflect on the status of their relationship so as to give feedback to one another and to improve their performance (Interviewee #VCGOH2, 2021). Chiro TVET College invited enterprises to visit their workshop for the sake of comparison and to help enterprises develop realistic information about colleges (Interviewee #VCGOH5, 2021). On the other hand, Interviewee #VCGOH3, 2021 from Bako TVET College reported that they have developed a good relationship and work in collaboration with enterprises. Whenever problems arise, the Bureau of Micro and Small-Scale Enterprises in the Bako district, the TVET College, the District TVET agency and other sectors periodically come together and reflect on the performance to find out if everything is going well or if there were things that needs some sort of alteration or modification. This partnership and collaboration is reflected in Figure 5.1 below.

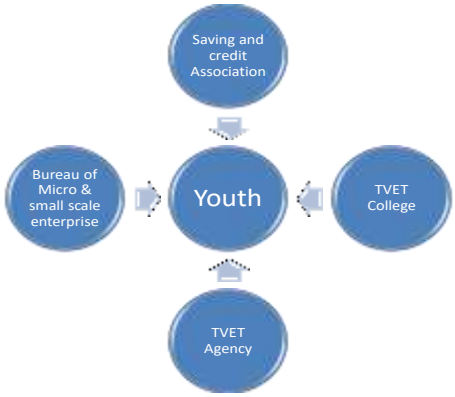


Figure 4.1: Stakeholders working with Bako TVET College

The Bureau of Micro and Small-Scale Enterprises primarily focuses on addressing youth unemployment. It organises and sends youths to TVET colleges for the necessary skills to run their own business. In collaboration with the District Municipality, the bureau provides a temporary shelter to conduct their business and links them with saving and credit associations. TVET agencies on the other hand, have the responsibility to liaise between TVET College, the regional TVET agency, the District Bureau of Micro and Small-Scale Enterprises to ensure that youths are trained and skilled to enter into business. TVET colleges provides capacity building training and consultancy services for micro enterprises and write recommendation letters to micro finance so that students are financed. Based on the recommendation from the TVET College and developed business plan, saving and credit association borrow necessary budget. This means that there is positive collaboration among stakeholders. To maximise mutual benefits and ease communication, stakeholders hold regular evaluation meetings. The rapport and collaboration encourage self-employment and entrepreneurship skill of unemployed youth (Interviewee #VCGOH3, 2021). However, TVET colleges encounter challenges in the implementation of cooperative training as some enterprises are very small and fail to meet the minimum requirements to host trainees.

As the response from participants depicted, the rapport between TVET colleges and enterprises is complicated. There was time when enterprises did not want to welcome students for cooperative training. Some other enterprises distort the very concept of cooperative training and tend to exploit students' labour in one or another way (Interviewee #VCGOH4, 2021). Some enterprises requested the TVET colleges to send students, but then tried to take advantage of students and exploit their labour. The colleges did not tolerate such behaviour and took corrective steps before it was too late either by communicating the guidelines for cooperative

training which need to be adhered to or they would no longer send students to those enterprises (Interviewee #VCGOH2, 2021). As Interviewee #VCGOH5, 2021 reported, some government sector representatives who have the authority to persuade and reinforce enterprises, lack commitment in promoting the advantages of cooperative training. They should advocate how the programme could contribute to enhancing the quality of the training, reinforce self-employment and employment opportunity of youths and young adults. However, these and other factors corrupt the rapport between TVET colleges and enterprises.

4.1.1.3 Awareness and implementation of cooperative training guidelines

The Ethiopian education and training policy clearly depicts that technical and vocational training provided in TVET colleges should be delivered with active involvement of enterprises in the form of cooperative training. In cooperative training, students are expected to spend 30% of their time at the TVET college and 70% in enterprises. The guidelines to enhance proper implementation of cooperative training have been prepared by the Federal TVET Agency. As depicted in the guidelines, TVET colleges and enterprises are expected to work together to run the training effectively. Collaboration is expected to help the process of student learning particularly as all the necessary materials for training are not available in TVET colleges (Interviewee ≠ VCGOH4, 2021). However, the guidelines fall short of considering the local context and do not outline a strategy on how to make the collaboration applicable. The guidelines give the mandate for TVET colleges to identify enterprises that have the capacity to host trainees, lobby and persuade enterprises to work as the co-trainers and bring all stakeholders on board. Yet, colleges have no power over enterprises and other stakeholders (Interviewee ≠ VCGOH1, 2021).

As participants confirmed, TVET colleges are aware of the guidelines in comparison to enterprises. The majority of enterprises have no information about the guidelines except those who graduated from vocational schools and opened-up their own businesses (Interviewee ≠ VCGOH3, 2021). As Interviewee #VCGOH1, 2021 also reported, enterprises have very limited or no knowledge of the guidelines as they have not been communicated to enterprises. In the case of Adama, the majority of the enterprise management learnt about their duties and responsibilities when they attended the conference organised by Adama TVET College to initiate collaboration with the local administration (interviewee #VCGOH1, 2021). When TVET colleges, enterprises and other stakeholders hold discussions, participants from enterprises expressed their disappointment saying *"if we have roles to play in cooperative*

training why weren't we be given the chance to be involved beginning from curriculum design" (Interviewee #VCGOH1, 2021). Representatives of enterprises explain how their participation would contribute to enhance quality of the training for their needs and interests would have been addressed in many ways. Interviewee #VCGOH2, 2021 reported that enterprises were not given orders directly by government, which has resulted in resistance from enterprises when colleges have tried to involve them in cooperative training.

As Interviewee #VCGOH4, 2021 reported, TVET colleges are responsible for identifying, communicating and raising awareness of enterprises about cooperative training. TVET colleges have an office designed to coordinate collaboration between vocational training institutions and enterprises lead by the VCGOHs. VCGOHs are required to identify, negotiate and facilitate the assignment of students to enterprises and to acquire and develop practical skills with active involvement of instructors and the head of respective departments (Interviewees #VCGOH 1, VCGOH2, VCGOH3, VCGOH4 and VCGOH5, 2021). A Memorandum of Understanding should be signed between the TVET colleges and enterprises via facilitation of the Vocational Counselling and Guidance Office after consensus has been reached between the two institutions (Interviewee #VCGOH4, 2021). As Interviewee #VCGOH4, 2021 reported: *"In TVET colleges there is an office known as Vocational Counselling and Guidance Office. The office is required to initiate, coordinate the effort of academic staff in the college so that instructors will be engaged in identifying, initiating and working with enterprises and oversee collaboration of TVET colleges and enterprises in order to make cooperative training effective".*

Most TVET colleges have no power over enterprises to coordinate and involve potential partners; they lean on the local administration known as town/city administration. As the Interviewee #VCGOH3, 2021 reacted, TVET colleges arrange discussion forums with the help of the municipality for discussion and reflection so that enterprises are actively involved in cooperative training. During the meeting, the TVET College Vocational Guidance and Counselling Office discusses the basic essence of cooperative training and how enterprises could benefit from the programme, what is expected of enterprises, how they should help students when students are in enterprises. In this regard Interviewee # VCGOH1, 2021 said, *"With the help of municipality, we held conference with industries: have discussion and reflection session to communicate the main purpose of cooperative training. I personally have identified number of industries that are appropriate for cooperative training in Adama city.*

The discussion and reflection session actually gave us opportunity to look at the issue from enterprises perspective, which can be used as input to help our college to amend the curriculum, mode of delivery and other important aspects of the training."

TVET colleges are mandated to provide advisory service for micro-enterprises from their inception. While giving advisory service, the Vocational Counselling and Guidance Offices use the opportunity to create awareness about cooperative training and how micro-enterprises contribute to the enhancement of cooperative training (Interviewee # VCGOH3, 2021).

Concerning the implementation of cooperative training, the researcher asked interviewees if things were done as per the guidelines. The Vocational Counselling and Guidance Office Heads working in different colleges reported differently concerning implementation of cooperative training. For instance, Interviewee #VCGOH2, 2021 reported: "*No, the training has not been provided as per the guideline".* He tried to discuss major reasons why training has not been given as per the guideline. According to him which was confirmed by Interviewees #VCGOH3 and 5, 2021, were; firstly, enterprises lack awareness about cooperative training and secondly, programmes were opened without scanning the environment on the availability of enterprises that can host students for cooperative training. TVET colleges open up training programmes without critically considering the internal capacity of the college and ensuring that enterprises are available in the area so that students can go to for practical attachment. From this perspective, it is possible to say that TVET colleges themselves were not working in accordance with the guidelines. But this view was not shared by Interviewees' #VCGOH1 and 4, 2021 as this problem was not raised.

Those respondents who had problems in the implementation of cooperative training were asked if there was anything else they did to help students learn. In the case of Ambo, the college has employed its own strategy to bridge the skill gap students would otherwise encounter. Students remain on campus for longer periods although it was against the guidelines of the implementation of cooperative training. Interviewee #VCGOH2, 2021 responded they were trying their level best to provide the necessary skills within the institution although the institute did not have all the necessary equipment and those found in the institution were outdated and semi-manual with less capacity.

4.1.1.4 Enterprise participation in the preparation and execution of the plan

When a curriculum is initiated, it considers the need for skilled manpower, and the willingness of enterprises to work with TVET colleges (Interviewee #VCGOH4, 2021). Identification of the need and interest of enterprises should not be a one-time activity because enterprises live in an ever changing environment which requires their active and continued involvement. Enhancing participation of enterprises in planning and implementation is important. Successful execution of any worthwhile activity is conditioned by proper planning and should not be separated. As the participants confirmed, planning for cooperative training was the sole activity of the TVET colleges and enterprises were not involved in the process of planning (Interviewees #VCGOH1, 2, 3, 4 and 5, 2021). Time is an invaluable resource for enterprises and they are reluctant to share it with activities not directly related to their prime objective, profit maximisation. TVET colleges were the sole responsible organ in the process of planning, determining where, how and when cooperative training would be carried out, where and when students should go, and when students should report back to the college.

4.1.1.5 Infrastructure used in TVET colleges and enterprises

Ethiopia, as a country, is aware of the advancement in technology and is working at modernising and upgrading its technology which dictates the infrastructure used for cooperative training. One of the participants (interviewee #VCGOH1, 2021) described the scenario of the use of technology in industry and how from manual beginnings, it has gradually developed into semi-automated technology. It is inevitable that technology be transformed to fully automated technology in time. This in turn could dictate the nature of the training and infrastructure used in both colleges and enterprises (Interviewee #VCGOH4, 2021). The assessment done from this perspective illustrated that most institutions have limitations as they have not used advanced technology fully. As Interviewee #VCGOH1 & 4, 2021 reported, enterprises in East Showa were in a better position with the utilisation of advanced technologies. Adama and Bishoftu TVET colleges involved medium and large-scale enterprises in cooperative training because these were located in the areas. They decided not to use micro enterprises because of availability of medium and large scale enterprises and they felt that they micro enterprises could not be able to address the need and interest of their students as the technologies used by the college surpass those used by micro enterprises.

The case in West Hararge, Jimma and West Showa were quite different: these areas were less industrialised and have very limited options and as a result, they rely heavily on micro enterprises. As the respondent from Bako (Interviewee #VCGOH, 2021), reported, they partner exclusively with micro enterprises. In his continued explanation, it was revealed that big hotels, restaurants, cafeterias and manufacturing enterprises were not available in the area. The college therefore focused on helping unemployed youths, start new businesses, build their capacity and work with them to enhance the quality of their training.

Some enterprises were in a better condition in comparison to others. The researcher visited both institutions and have found that the technology being utilised were at different stages.


Flour & Macaroni Factory: East Showa


Gypsum Factory: West Showa

The flour and macaroni factory utilised advanced technology, was well ventilated, the environmental pollution was minimal and it looks that the environment was healthy. On the other hand, the gypsum factory, located in West Showa, did not use advanced technology, the air was suffocating, and the environmental pollution was very high and not good for health. It seems that this is mainly a result of the technology being utilised but could also be the type of product.

4.1.1.6 Comparison of the number of students with enterprises

Enterprises are established as ventures to make business. They do not want to be obstructed by any other factor including cooperative training. In Ethiopian context, significant majority of businesses are micro enterprises which are characterised by shortage of capital, a poor network, lack of enough space with some being allocated temporary 'business' shelters given to them by the municipality for a maximum of five years. As a result, these micro enterprises have very limited capacity to host trainees for cooperative training. VCGOHs were asked to discuss the spaces available in micro enterprises and the number of students assigned for cooperative training. According to Interviewee #VCGOH2 2021, TVET colleges were forced to send large numbers of students (20-30) to each of micro enterprise which puts strain upon the enterprises.

Interviewee #VCGOH1, 2021 said that as there were not enough enterprises, the colleges alternated the cooperative training. This means that while some of the students are undergoing cooperative training, others stayed on the campus for training. For example, in the discipline of manufacturing, students from Levels 2-5 were not sent for cooperative training at the same time. As far as the numbers of students sent to enterprises were concerned, *"enterprises are required to communicate the number of students they can handle. We usually negotiate by reminding them of the very purpose of cooperative training and the number of students we have at hand so that all students enrolled in the programme can benefit"* (Interviewee, #VCGOH1, 2021). The participant from Chiro also depicted a similar scenario as the number of students exceed number of enterprises by far. To illustrate the situation, the participant described the case of the department of animal production where only one animal health centre was located in the area and yet the college had about 700 students to place for cooperative training which meant that they were forced to send 30-40 students to the enterprise at a time for cooperative training which was problematic (interviewee, #VCGOH5, 2021). Table 4.1 offers a deeper understanding about the number of enterprises located in the area of the TVET colleges

Table 4.1: Number of various enterprises

No.	Name of the College	No. of Micro and Small-Scale Enterprises	No. of Medium and Large-Scale Enterprises
1	Adama TVET	-	150
2	Ambo TVET	90	6
3	Assandabo TVET	73	-
4	Bako TVET	81	-

No.	Name of the College	No. of Micro and Small-Scale Enterprises	No. of Medium and Large-Scale Enterprises
5	Bishoftu TVET	-	130
6	Chiro TVET	83	4
7	Hirna TVET	75	2
8	Jimma TVET	70	20

The above table illustrates the nature and number of the enterprises that each of the TVET college work with. Of the eight TVET colleges, only two were working with medium and large-scale enterprises. One can thus infer that colleges were trying to develop collaborative relationships with enterprises for cooperative training. Based on the figures depicted above Adama and Bishoftu TVETs were in a better condition for they had opportunity to send their learners to medium and large-scale enterprises. Interviewee #VCGOH2, 2021 revealed that Ambo TVET College had signed a memorandum of understanding with ninety-six enterprises but, the majority were not in a position to host students for cooperative training. It seems that many small enterprises either move to other places without communicating their whereabouts or have closed their business. Interviewee #VCGOH4, 2021 on the other hand, reported that a significant majority of enterprises used rudimentary technology that did not really serve the needs and interest of students and could not contribute to meeting the learning outcomes of the programme. Some micro business enterprises were not willing to host students and share their knowledge and skills as they considered trainees as potential competitors upon their graduation and concertedly avoided supporting trainees (interviewee #VCGOH5, 2021).

4.1.1.7 Readiness of enterprises to host students for cooperative training

VCGOHs believed that quality of training should be the concern of both colleges and enterprises. As Interviewee #VCGOH2, 2021 reacted, enterprise participation in cooperative training with wise utilisation of time and resources could result in getting skilful and knowledgeable workers from the labour. The more employees in the organisations are knowledgeable and skilful, the higher the probability to enhance efficiency of and lesser the need for supervision.

The readiness of enterprises to participate in cooperative training could be assessed based on whether or not enterprises have assigned a focal person who can provide assistance and guidance for students. The researcher asked if enterprises assigned a focal person to manage the cooperative training. Some respondents reacted to this question positively while other

negatively. Interviewees' #VCGOH1 and 4, 2021 reported that enterprises assigned focal persons who provided assistance and guidance and mentored trainees in each and every step of their training. According to Interviewee #VCGOH2, 2021), enterprises either did not assign a focal person to facilitate cooperative training or the assignment was nominal. Enterprise participation in cooperative training was not significant and they lacked commitment as they considered that engagement in cooperative training was not their responsibility. *"Whenever we took trainees to enterprises, they received trainees without any preparation: they showed some parts of the machines and gave very limited explanation to student"* (Interviewee #VCGOH2, 2021).

Involvement of enterprises in cooperative training might incur additional costs. As all VCGOHs reported participation in cooperative training demanded enterprises additional costs; but, government, students or vocational schools did not cover the cost of training. As the matter of fact, if any sort of damage occurred during the training enterprises would not be compensated. That made enterprises to be extra careful to cut costs and minimize costs as much as possible and restrict students' access to machines or equipments and allow them under close supervision of the experts in charge (Interviewee #VCGOH4, 2021). Thus, organisations devote the majority of their time to providing explanations while students observe how the system works. Trainees spend 60%-70% of their time in observation and obtaining explanations (Interviewee #VCGOH3, 2021).

As enterprises are profit-making organisations, they are concerned about the comparative advantage and the cost that cooperative training might incur. As the respondents confirmed, enterprises' active involvement in cooperative training could help in securing competent and qualified workforce. Interviewee #VCGOH4 (2021) reported: *In Ethiopia, sometimes it is hard to find competent and qualified labour force in the market: especially for medium and large-scale enterprises. Enterprise participation in cooperative training would help trainees in familiarising themselves with the work environment and internalise the work culture in addition to getting training. This in turn could help enterprises to cut cost of induction for newly employed staff could be adaptive to the environment easily*.

Depending on TVET colleges' ability to communicate and the colleges' location, enterprises have started to open their door for cooperative training. However, the level of their cooperation tends to differ. In the case of Ambo TVET, as Interviewee #VCGOH2, 2021 reported, some

enterprises that had necessary facilities and equipment were not willing to collaborate in cooperative training. Their participation was not to bring about change: they were not working with the direction of the government. The case of Adama and Bishoftu was quite different and enterprises were seen to be positive (Interviewees #VCGOH1 and 4, 2021). Enterprises in Adama and Bishoftu started to give due attention to cooperative training. To facilitate the process of learning, enterprises assign focal persons who mentor trainees and, in some cases enterprises give students pocket money and arrange transport facilities. Some enterprises also offer employment opportunities to students after graduation.

4.1.1.8 Time spent in enterprises for cooperative training

Adama and Boshoftu are home to a number of big enterprises such as industrial parks, international hotels, banks and manufacturing industries. Interviewee #VCGOH1, 2021 reported that *"It is possible to say that the college is fortunate because it is situated in Adama: metropolitan city, where we have relatively large number of enterprises and we have variety of options. When students are out for cooperative training, they will be transported to the enterprises. Instructors will take students with themselves to the enterprises and hand over them to enterprises focal person. Then after, they will be required to be there till they complete the training. The focal person is responsible to mentor students and provide their progress report when supervisory team goes to the enterprises for supervision."*

In further discussions, it emerged that students attended college and enterprises as per their curriculum and it is possible to say that cooperative training is implemented in Adama and Bushoftu as per the guidelines although there were some irregularities (Interviewees #VCGOH1 & 4, 2021). As the training provided in colleges is competency based, the time for students to stay in enterprises was determined by respective departments (Interviewee #VCGOH4, 2021). The irregularities were related to the issue of attendance, student dropout and constraint of budget. Interviewees #VCGOH1 & 4 (2021) reported that when students were sent to enterprises, not all were engaged in the training due to financial constraints, lack of motivation or other personal problems. However, some trainees were employed in the enterprises where they did cooperative training before they graduated from the programme.

Participants from Jimma, Ambo, Bako and Chiro had a different view. TVET-enterprise linkage focal persons reported on the allocation of time, as per the guidelines. In Jimma, there are good quality hotels, banks and a few medium scale industries in those enterprises learners

are given opportunity to practice what they have learned. In Ambo and Chiro, there are banks, a few hotels and very few medium-scale industries. According to Interviewee #VCGOH2, 2021, students from their college have very limited opportunities to engage in cooperative training due to a limited number of enterprises in the area and lack of budget. Lack of cooperative training is evident in programmes requiring high technology as students are not able to put into practice what they have learned in theory. *"Even students enrolled in the department of Hotel and Tourism did not get opportunity to practice up to the level of expectation for there were very few numbers of hotels in the town. Departments like surveying and construction were by far better for they can send their students to the field. On the other hand, learners attending in the department of electric-electronics and machine were not taking part in cooperative training."*

The case was a major problem in Bako for there were no hotels, no construction activity and no cottage industry. Interviewee #VCGOH3, 2021 reported that students in the department of construction and building and installation did not have the opportunity to engage in cooperative training for there was no enterprise working in the area of construction and electricity. As Interviewee #VCGOH3, 2021 reported, the college solely depended on micro and small-scale enterprises that had a very limited capacity in every aspect. Hence, the majority of industries were small scale with limited capacity, and were not willing to cooperate for they were afraid of the occurrence of some kind of damage; their contribution to cooperative training was not significant (Interviewee #VCGOH2, 2021). Because of the difficult situation, TVET colleges in small towns have developed their own strategy to cope with the problem and to prepare students for the qualification examination administered by the Oromia Occupational Centre of Competency; this meant TVET colleges have to give students the opportunity to practise what they have learned theoretically on campus to prepare them for the examination and the world of work.

4.1.1.9 Enterprise perception on the competency of students

View of enterprises on the competency of TVET students is one of the most critical factors affecting the way they treat trainees. TVET colleges use different strategies to get feedback from enterprises and the labour market on trainees' competency. TVET colleges collect feedback from enterprises using different techniques: among others through discussions, individual interviews and from students themselves. The finding shows, enterprises perception was mired with public opinion on TVET Colleges. Regarding this interviewee #VCGOH1

(2021) said: *"We have carried out discussions with enterprise management to check if they were confident with students' ability. Enterprises were not confident on students/apprentices' ability to operate the machines or use the equipment properly. Major reasons raised by enterprises were ethical problems, lack of knowledge, skills and learners' low self-esteem".* As interviewee #VCGOH2, 2021 also reported, enterprises thought that trainees could not align with enterprise requirements and they lack commitment to contribute and learn. As the result enterprises afraid that quality of the product would be compromised because of trainees' participation and inefficient utilisation of resources.

In addition, enterprises believed the training provided by TVET colleges lack quality, inter-linked with politics and students have poor work culture. As interviewees reported, ethical problems with apprentices were identified. It seems that in some cases, trainees disseminated gossip and harmful information among employees and diverted the attention of employees in the company. They seemed to develop the habit of overemphasising right over obligation which was found to be the main causes of mistrust and conflict between employees and the management (Interviewee #VCGOH1, 2021).

4.1.1.10 Contribution of enterprises for success of cooperative training

In principle, cooperative training is viable alternative mode of training as enterprises could assist in developing learners' practical skills and develop positive attitude. It contributes to revitalising employment opportunities for learners as they are offered the chance to see where they can fit in the world of work (interviewee #VCGOH4, 2021). In the context of Ethiopia, however, it works for colleges situated near the capital city and industrial zones where there is ample opportunity to collaborate and work with enterprises. *"But, for colleges founded in the peripheral parts of the country where it is hardly possible to find medium and large-scale enterprises, the effectiveness of this approach was highly compromised"* (Interviewee #VCGOH3, 2021). Colleges send students to enterprises to give them the opportunity to visit and work in enterprises (interviewee #VCGOH5, 2021) even if the situation is not entirely conducive.

Regarding the capacity and commitment of enterprises from enterprise-industry focal persons' perspective, Interviewee #VCGOH1, 2021 reported that the majority of the enterprises in Adama identified for cooperative training have the capacity to serve the purpose. Enterprises in Bishoftu also have no problem concerning the capacity (Interviewee #VCGOH4, 2021).

Most of the enterprises selected for cooperative training in East Showa (Adama and Bishoftu) were either medium or large-scale enterprises using advanced technology. Interviewee (#VCGOH1, 2021) said: *"Only medium and large-scale enterprises are considered for cooperative training. This is because facilities available in small-scale enterprises cannot address the need and interest of our students: technologies utilised by Adama TVET College surpass the technology used by small and micro enterprises."*

To ensure enterprise commitment, Bishoftu TVET College annually signed and re-signed a Memorandum of Understanding (MoU) as a strategy (Interviewee #VCGOH4, 2021). Colleges also organise an annual forum and conduct a needs assessment before and after the training (Interviewees #VCGOH1 & 4, 2021).

The majority of enterprises involved in cooperative training in West Showa, West Hararge and Jimma (Ambo, Bako, Chiro and Jimma TVETs) were small and micro enterprises that have a limited capacity and utilised rudimentary technology (Interviewees #VCGOH2, 3 and 5, 2021). TVET colleges in West Showa, West Hararge and Jimma depended on small and micro enterprises because there were a very limited number of medium and large-scale enterprises in their localities. As Interviewee #VCGOH2, 2021 explained, there were only two factories in the Zone that can be considered as medium and large-scale enterprises. These factories were not accessible for they were located relatively far from the college. The other two Zones also were found to be in a similar situation and vocational training institutes were forced to depend on small and micro enterprises.

As interviewee #VCGOH3, 2021 explained enterprises were willing to cooperate. Small and micro enterprises were willing to serve as the co-trainers, taking time to help and guide trainees on how to develop the necessary skills and competency. Most small and micro enterprises are engaged in woodwork, masonry and the like and were cooperative and willing to help trainers in mastering the necessary skills. However, others were less committed and even hesitated to accept students and provide the opportunity to practise using the resources available. They only accepted students because they were afraid of the authority, not knowing what would have happened if they refused to accept students. Such enterprises involved in cooperative training to confirm and avoid unseen harm they speculated might came upon them from the government or local administration. Most small and micro enterprises and government enterprises have a

better understanding and are willing to cooperate and work in collaboration with TVET colleges for the attainment of educational objectives.

In the case of small and micro enterprises, the main problem is the issue related to capacity. In the case of Bako, IntervieweeVCGOH3, 2021 said that small and micro enterprises have no capacity to host students as expected. Before the college registers students for a programme, it finds enterprises with which they could partner for the process of training and sign MoU. But, when the college allocates students to these enterprises, they find that these have either left the area, changed their businesses, completed the project (in the case of construction) or are not be willing to cooperate.

4.1.1.11 Experts' dilemma regarding experience sharing

An expert who qualifies in each area of specialisation and assigned in a position has referent power and can determine the effectiveness of cooperative training. Based on the information obtained from VCGOHs, it was found that some experts were highly positive and willing to share their knowledge and experiences while others were not willing to share at all.

As reported by Interviewee #VCGOH5, 2021, the majority of micro and small-scale enterprises working in Chiro town engaged in woodwork and metal work and were found to be half hearted and not positive to engage in cooperative training. Even after they had signed MoU, experts were found to be extra careful and not willing to allow students to practise for they consider trainees as their future competitors who would share their market after graduation. Experts used different strategies to deter student learning, intimidating students from exploration by bragging over expensiveness of machines, raw materials and other staff (Interviewee #VCGOH5, 2021). On the other hand, there were times when students performed far better than employees in enterprises, especially in the area where conceptual skills were needed more than technical skills (Interviewee #VCGOH5, 2021). At that time, employees in the enterprises were ashamed that they had discouraged students in different ways. Employees who had acquired skills from experience were often not aware of the safety rules and potential dangers, might not have enough theoretical knowledge on the issue or fail to understand how things were related to one another and its impact. Because of this, students might challenge the enterprise focal persons whenever there were contradictions between what they had learned theoretically and what they observed practically in enterprises (Interviewee #VCGOH5, 2021).

4.1.1.12 Enterprise participation in the process of assessment

Training is a purposeful activity and should be supplemented by assessment. Close follow-up and monitoring are one form of assessment which requires active involvement of enterprises. The Vocational Guidance and Counselling office heads confirmed that colleges send students to enterprises with letters of correspondence and an attendance sheet to be completed and returned with a portfolio of evidence. Interviewee #VCGOH3, 2021 explained, *"The focal person takes attendance and submits the progress report to the college. This shows participation of enterprises in the process of assessment."* Interviewee #VCGOH2 (2021) on the other hand, reported that enterprises leave attendance and other supporting documents with the students as they did not want to be involved in the process of assessment in any form. It seems that colleges also do not bother to look at students' portfolio and check if progress is being made (Interviewee #VCGOH2, 2021).

Interviewee #VCGOH2, 2021 reported that enterprises did not take part in the systemic and formal process of assessment. Although the TVET colleges expected enterprises to prepare occupational standards and evaluate if learners were up to the standard, they themselves did not know about occupational standards. Experts working in enterprises were not able to articulate knowledge, skills and attitude, a given position that is required to evaluate students accordingly. Many individuals serving as experts in enterprises became experts through experience and they were not able to evaluate performance of students against occupational standards (Interviewee #VCGOH4, 2021)

Participants viewed the issue from different angles and said that focal persons had very limited participation in the assessment of student learning. Students were sent to enterprises to practise what they had learnt in their respective colleges. Enterprises were required to assist students to learn, not to assess as occupational assessment was administered centrally by the Oromia Centre of Occupational Competency at regional level and did not value formative assessments conducted by both enterprises and the colleges. However, the guidelines required active involvement of enterprises, but it did not clearly indicate how that should be treated and how participation of enterprises and colleges would be taken into consideration. It was reported that enterprises did not take part in the process of assessment (Interviewee #VCGOH4, 2021). According to Interviewee #VCGOH5, 2021, enterprise focal persons guided the learning endeavours of students which entail the provision of feedback. As such, it is possible to say that enterprises participated in the process of assessment indirectly and informally.

The system of assessment at TVET colleges was quite different from other academic institutions in the country. Learners were expected to undergo a competency assessment by the Oromia Centre of Occupational Competency. After successful completion of the training, students would sit for the competency test, as both a theoretical and a practical examination. Students are awarded a certificate of completion if they pass the competency assessment (Interviewee #VCGOH1, 2021). Thus, it has been affirmed that enterprises did not take part in the assessment process formally. Enterprises were mandated to provide the opportunity for learners to put into practice what they have learnt in their respective colleges: not to evaluate student performance and to submit progress report.

4.1.1.13 Budget allocation for cooperative training

Cooperative training involves different stakeholders. Searching for appropriate enterprises and reaching consensus is not an easy task for it needs communication, patience and a concerted effort which entails its own budget (Interviewee #VCGOH4, 2021). Frequent interaction, discussion and reflection, training, lunch and transport allowance for learners and instructors requires financing. All colleges in the region had not allocated funds to facilitate cooperative training. Some TVET colleges used the area they were in as a comparative advantage. As Interviewee #VCGOH4, 2021 said, sponsoring cooperative training either via provision of transport facility, pocket money and/or employment opportunity was the criteria to determine whether or not to work with a given enterprise. *"When the college dealt with Gafat engineering for example, since it was far from the town, the College made sure that students were allowed to use transport facility availed for employees of the organisation"* (Interviewee #VCGOH4, 2021). Bishoftu TVET College tried to ease the problem that students might otherwise face and work with the enterprises to ensure the process of cooperative training.

On the other hand, the majority of TVET colleges suffered from the lack of budget for cooperative training. As Interviewee #VCGOH2 (2021) explained *"no budget has been earmarked by the College to run cooperative training. Even transportations facility was not available for both students and instructors. Because of this, trainers would not be able to take students a little bit far from the training institute*." Interviewee #VCGOH3, 2021 also affirmed that a budget was not earmarked for cooperative training. It was assumed that cooperative training would not require additional costs as both students and instructors were not going far from their homes or the college.

Another area of concern is that students were not provided with safety materials irrespective of the nature of the factories/enterprises. Participants of the group interview (GI1, 2021) from Ambo said: *"When we went to Gypsum factory, we were required to enter into the production room without any safety materials (mask, uniform and shoe). We were forced to leave the factory shortly because we were suffocating and got difficulty to breathe."*

The researcher was given the opportunity to observe the situation at the Gypsum factory and concurred with what the student respondents said. When the researcher entered into the production centre, he saw that the room was clouded by the dust and it was not possible to see anything: even workers could hardly see one another. In addition to that, the floor was covered by the dust and he was swamped by it. The researcher felt that taking students to enterprises like these were risky and could affect their health. As the interviewee #VCGOH2 (2021) said, neither instructors nor students were provided with safety materials either from the College or from the enterprise mainly due to budget constraint. This of course would affect learners' motivation negatively which in turn affected quality of the training.

4.1.1.14 Compensation provided to enterprises for their participation in cooperative training

When enterprises participate in cooperative training, their time and resources are compromised as trainees are unable to do the job by themselves and would need mentoring and monitoring.

If students are engaged in the process of production, there would be high probability of wastage of raw materials and other resources. Interviewee #VCGOH3, 2021 explained that working in the area of manufacturing involves a lot of measuring, cutting, drilling and the like which might result in wastage unless it is done with precision and machine or other production equipment might be broken or damaged.

The issue of compensation for their participation in cooperative training was raised. All participants replied negatively as there was no compensation from local government, the TVET colleges or students themselves (Interviewee #VCGOH1, 2, 3, 4 and 5, 2021). As Interviewee #VCGOH2 (2021) explained, irrespective of the type of enterprises taking part in cooperative training, no compensation was given be it in the form of tax exemption or importing accessories duty free or in any other way and no warranty was given for any kind of damage that could occur.

Interviewee #VCGOH3, 2021 on the other hand said that enterprises participating in cooperative training were given the opportunity to take part in different kinds of capacity building training as per their request, which might contribute to enhancing technology transfer. The process of employment of skilled manpower has been made a lot easier for enterprises as they have the opportunity to know the trainees (Interviewee, #VCGOH4, 2021). Interviewee #VCGOH5, 2021 affirmed that a letter of recognition is given to enterprises from the TVET colleges. The letter is helpful for micro enterprises as it allows them to borrow money from the savings and credit association and also obtain extensions of time to work in the place where they are running their business, which they would otherwise be forced to leave (Interviewees #VCGOH3 and 5, 2021). Some enterprises reported that involving students is advantageous because student participation contributes in cutting the cost of production (interviewee #VCGOH5, 2021).

Thus, depending on the type of programme for which students are enrolled, enterprises might or might not be open to take in students for the cooperative learning process. Enterprises engaged in woodwork, masonry and the like were willing to welcome students for they used their labour while providing training (Interviewee #VCGOH2, 2021). Learners were expected become engaged in risk-free/minimum risk activities (Interviewee #VCGOH3, 2021). Enterprises using advanced technologies engaged students with great caution; otherwise, greater damage might occur (Interviewee #VCGOH1, 2021).

4.1.2 Analysis and Interpretation of Data from Enterprise Focal Persons

In this section, the analysis and interpretation of the data collected from two enterprises personnel assigned as enterprises focal persons is presented.

Enterprise awareness about the cooperative training guidelines is of paramount importance to achieve the desired results, particularly enterprise focal persons. Interviewee #EF1, 2021 reported that he became aware of the existence of the directive from the government demanding active involvement of enterprises in the training of vocational training from the podium when a meeting was held to create a partnership between enterprises and the TVET colleges. Attendees were given the policy document when they were introduced to cooperative training (Interviewee #EF1, 2021). Interviewee #EF2, 2021 reported that he had become aware of the existence of the guidelines upon the visit of the industry-enterprise focal person. The interviews revealed that the authorities had not communicated the type of vocational training system that the country wishes to implement.

As enterprises are profit-making organisations, it was important to elicit the view of participants about cooperative training and how it is related or aligned with the purpose of their establishments. Enterprises viewed cooperative training positively for they consider as they were given opportunity to contribute to the production of skilled manpower. This is because industries aspire to employ competent workers who able to perform the job with little or no supervision (Interviewee #EF2, 2021). However, the knowledge and skills provided by the colleges do not seem to satisfy such a need (Interviewee #EF1, 2021). *"There is huge fatigue between the management of the industry and individuals employed from the market. There is time when machinery purchased with hard currency from abroad are broken and deprecated before the expected service year because of mishandling of the so called 'experts' working in the organisations"* (Interviewee #EF1, 2021). Thus, enterprise focal persons believed that cooperative training might help industries to minimise the current problems being experienced through time as more and more number of skilled personnel are produced. It was reported, however, that the cooperation between enterprises and colleges has not developed and much must be done to make it functional and responsive to the needs and interest of the country (Interviewee #EF2, 2021).

Enterprises' view on the competency of learners is one of the determining factors to involving learners in cooperative training. Enterprises view on students' capability was elicited. Even

though it is impossible to reach to a general conclusion, it has been seen that trainees find difficulty in relating what they have learned in theory with the actual practice (Interviewee #EF2, 2021). Interviewee #EF1 & 2, 2021 reported that learners took much time to develop the desired skill and acquaint themselves with the organisational culture. There was time when organisations required students to engage in organisational functions by giving them tasks under close supervision and follow up which assisted learners in learning from the experts. Interviewee #EF2, 2021 reported that students by and large, have learned concepts theoretically and need time to understand about the equipment - how to operate, assemble, and maintain it. Some industries are using high technology with machinery imported from aboard with hard currency. However, if part of a machine is damaged or broken, it would be great loss for the enterprise and it is for this reason that the enterprises were very cautious when helping learners to learn. The cultures of the industry and educational institutions differed and with cooperative training, students might learn the culture of organisations while working with other employees in the organisation (Interviewee #EF2, 2021). If the cooperation between TVET colleges and industry develops, it would serve to bridge the gap between the quality of the labour force produced and the interest of the labour market and contribute in producing a competent workforce that would understand organisational culture (interviewee #EF1, 2021).

Management and employees, who failed to recognise how the efficiency of their organisation correlated with the quality of the training might not be seeing the full picture (Interviewee #EF1, 2021). Enterprises receive students not because they have all the necessary knowledge and skills, but take on the responsibility to support learners in putting the theory into practice (Interviewee #EF1, 2021). However, enterprises do not play a role in the preparation of the action plan. This is done by the TVET colleges and submitted to industries for implementation to ensure that training runs smoothly. Enterprises work with the trainees to realise the attainment of educational objectives unless they find it is impossible in the context of their industry (Interviewee #EF1, 2021).

Enterprise involvement in cooperative training requires a large number of resources supplied by the authorities and trainees must be willing to serve the enterprises after their graduation as it would be a loss for the enterprises if they leave the organisation after successful completion of the training (Interviewee #EF1, 2021). Enterprises need skilled and motivated employee who have a positive attitude and are willing to contribute to the success of the organisation,

which is the reason for retaining graduates who want to work hard and have high levels of motivation (Interviewee #EF1, 2021).

As previously mentioned, there is a challenge between the number of students and the capacity of enterprises. Industries receive students from different training institutes and this could become a burden to the enterprises as the programme might affect enterprise performance in many ways (Interviewee #EF1, 2021). From experience, it has been observed that some experts were not willing to share knowledge and experience. Some experts were not happy and willing to share their knowledge and expertise because they tend to think that if trainees were knowledgeable and skilful, they would become a threat (Interviewee #EF2, 2021). Willingness and commitment of trainees were also important issues that determine the effectiveness of cooperative training. There was time when learners were not ready to take advantage of the opportunity and failed to learn as expected: that would be considered a loss (Interviewee #EF2, 2021).

Concerning the role of enterprise involvement in assessment, the participants reported that enterprises provided information on the progress of trainees upon the request of training institutions orally. Enterprises did not complete any sort of evaluation form, organise student portfolios or conduct any kind of assessment to quantify their achievement (Interviewees #EF1 & 2, 2021).

The issue of safety was another area of interest Cooperative learning often takes place in industries where machinery is being used. To ensure safety, the organisation should reinforce safety rules and provide safety shoes, clothing and the like which is the company's corporate responsibility (Interviewee #EF2, 2021). Learners are introduced to different parts of the machine, how each part is related to one another and the safety required to minimise the likelihood of the occurrence of any sort of damage. Thereafter, learners are instructed to be mindful of safety regulations when engaging in any kind of activity to avoid undesirable consequences. The company believed that damage could happen at any time be it in the hands of employees or students (Interviewee#EF1, 2021). When the company and TVET colleges enter into an agreement neither the company nor the colleges have raised the issue of compensation and there is no compensation for any kind of damage or wastage so far (Interviewee #EF1, 2021).

4.1.3 Analysis and Interpretation of Data from Students

Cooperative training has been designed to create a platform for learners to learn from and work with people in the enterprises who have a deeper understanding and expertise in their profession. Learners would be inspired to learn more and would get better insight how their future career could be enhanced with training. Here under the interpretation and analysis of the researcher has been done based on the information collected from three group interviewees of Adama, Ambo and Chiro TVET students. The sub-themes include opportunity for cooperative training, Time spent in enterprises, the Variety of tasks, the relevance of cooperative training, the readiness of enterprises to enhance the process of cooperative training, rapport between TVET colleges and enterprises, financial support and enterprise participation in assessment.

4.1.3.1 Opportunity for cooperative training

One of the issues discussed was the opportunity for cooperative training with students being allocated to specific enterprises. The responses differed with both positive and negative responses. Group Interviewee #1, 2021 reported that they had spent at least fifteen days at a specific enterprise and were given the opportunity to work in their area of specialisation. A student from the department of accounting (Group Interviewee #1A, 2021) said that the training focused on how to transfer money from one account to another, how to manage the flow of cash, work ethics and the like. Students from the department of garment making (Group Interviewee #1C, 2021) also reported as he had been given the opportunity to engage in the actual production after received a short briefing on how the system works. Similarly, Group Interviewee #2, 2021 also replied positively.

As the practice was department-specific, it varied from department to department. Students from the department of woodwork were given the opportunity to work with small enterprises and they believed they were given plenty of time to practise their skills while contributing to the enterprises (Group Interviewee #2C, 2021). Students from areas of construction were assigned to building construction enterprises which gave them the opportunity to put into practice what they had learnt at college (Group Interviewee #2D, 2021). Students from the department of surveying on the other hand, reported practising what they had learnt both within and out of the campus and did not need much help from enterprises (Group Interviewee #2B, 2021).

Group interviewees #3, 2021 on the other hand, reported that they had not been given the opportunity to exercise what they have learned at college. Students were not allocated to

enterprises for cooperative training because of the weakness of college organisation. Group interviewee participants from the department of agriculture supported the argument using their department as illustration. They did not have cooperative training on a farm, which would not have been difficult to arrange as Ethiopian economy is predominantly agriculture. Group Interviewee #3, 2021 felt that the rapport between enterprises and the colleges was weak as they did not collaborate with enterprises and make cooperative training a reality.

4.1.3.2 Rapport between TVET colleges and enterprises

Students were asked to share their views concerning the rapport between TVET college and enterprises based on their experience. Participants from the department of ICT from Adama shared their views: *"It is hardly possible to say that the relationship between TVET and enterprises is satisfactory".* To justify their response, participants referred to their experience of not being able to engage in cooperative training in their area of interest. They simply were provided information upon their request: no proper guidance and they were not been given proper assignment. Had the TVET College developed good rapport with the university, learners may have been treated differently. Special arrangement would have been made to welcome students and to provide necessary support so as to foster students' learning opportunity. Learners felt that lack of good rapport between the college and enterprises inhibits the process of learning.

Participants from Ambo TVET College also cited another important gap concerning the implementation of cooperative training. According to Group Interviewee #2A, 2021, the college had not explored the environment exhaustively and tried to forge collaboration for the benefit of students. There were institutes in the town with whom the college could have collaborated so that learners would have been given the opportunity to practise what they had learnt. The respondent cited Ambo University as an example where facilities available were by far better than those at the college. Had the TVET College created a solid partnership with the university, students would have been given the opportunity for a good cooperative training opportunity.

4.1.3.3 Time spent in enterprises

As per the guidelines from the Ministry of Education, students are expected to spend 30% of their time at college and 70% of their time in enterprises. But the reality on the ground was quite different but it did vary from college to college and among departments. Student

participants felt that the quality of the training was highly compromised as the 30:70 ratios was not been adhered to. The training provided at TVET college level was theory laden because the workshop was not up to standard and lack necessary resources and yet, the training was not been complemented by cooperative training as per the guidelines (Group Interviewee #3, 2021). The response from Group Interviewees1 and 2, 2021 showed that the existing practice differed from department to department within the same college which meant that students did not spend the required time in enterprises. As an illustration group students from Adama got relatively enough time to spend in enterprises (interviewee #1A, B, C & D). Interviewee #2A, 2021 (Ambo TVET students) reported that their visit lasts only for half days. The case of Chiro TVET students was completely different in that they were not given training opportunity in enterprises (interviewee #1A, & B).

4.1.3.4 Variety of tasks

Effectiveness of student learning in enterprises is conditioned by the tasks arranged for students ahead of the time. The more the activities are varied, the more opportunities for students to learn. In the case of Adama TVET College, students from the department of accounting reported as they were engaged in varieties of tasks when they were in enterprises for cooperative training (Group Interviewee #1A, 2021). Students from the department of garments on the other hand confirmed that learners were assigned to sew underpants for fifteen consecutive days which proved that the task was not varied (Group Interviewee #1C, 2021). Similarly, students from Ambo TVET College reported that learners from the department of woodwork and construction were engaged in variety of tasks (Group Interviewee #2C & D, 2021). Students from the department of eclectic-electronics on the other hand reported that they did not get enough time to learn by doing (Group Interviewee #2A, 2021)

4.1.3.5 Relevance of cooperative training

Cooperative training, if implemented correctly can be effective in the development of the relevant skills. Respondents who engaged in cooperative training responded positively as they had been given the opportunity to meet people in the area of their future career, observe the kind of facilities available in enterprises, understand the working condition and become aware of developing the desired behaviour (Group Interviewee #1, 2021). Group Interviewee #1B, 2021 said *"Going to the enterprises gave us opportunity not only to practice what we have learned theoretically in the College; but also, to see how we can open up our own businesses".*

Similarly, Group Interviewee (#1A, 2021) said *"What we have learned in TVET College is actually good. But, working in the enterprises helped us to see the possibility for growth and development".*

Group Interviewee 2 (2021) also replied positively as engaging in training opportunities in enterprises was beneficiary in many ways. Workshop in the TVET College was restrictive and the materials used for training were of a lesser quality. As Group Interviewee #2A, 2021 from the department of electricity-electronics said, *"I saw that the capacitor, contactor, transformer and other parts of the equipment used in our college were very much smaller as compared with the parts I saw in enterprise. On top of that, some of the materials utilised in enterprises were not available in our college".* Thus, it is possible to deduce that learners were positive about cooperative training generally which could foster the process of learning.

4.1.3.6 Readiness of enterprises to enhance the process of cooperative training

Another important issue was finding out how learners were received in the enterprises. Feedback obtained from student participants from three groups was interesting as it varies between departments within each college. Some of the group members believed that enterprises made necessary preparation, while others not. Considering the case of Adama TVET College, a student from the department of garment reported that enterprise welcomed them and provided them brief explanation about the company and how the system works. They were taken where the design, patterning and sewing is done (the illustration was made by showing how underpants can be made). Thereafter, they were assigned to perform the job (sew the underpants) by themselves under the company's foreman close supervision (Group Interviewee #1B, 2021).

Group Interviewee #1A, 2021 said students of the accounting department were required to look for enterprises willing to accept them as trainees. After students had independently found enterprises, the college wrote a letter of correspondence to the enterprise. In further discussions, the learner reported that he was given the opportunity to go to one of the local banks for cooperative training and was welcomed by the branch manager. The branch manager attached him to an expert who coached the trainee. Group Interviewee #1C & D, 2021 on the other hand shared a completely different story and had little success with engaging in cooperative training: *"The University is very big and when we went to the institution security force didn't allow us to enter into campus. We returned back to TVET College and got support letter and we were*

allowed to enter into the campus. Hence, the campus was so big we faced difficulty to get appropriate office to communicate. After we identified the office, we communicated the person in charge and told him why we were there for cooperative training. The person gave us a document having the required information. When we invited him for interview he reminded as all the information we are looking for were in the document saying he is too busy for further help."

In contrast, Group Interviewee #2C, 2021 from the department of woodwork reported that the enterprise received students and briefed them about the organisation and assigned them directly to engage in activities. Similarly, students in the areas of construction also were given the opportunity to put into practice what they had learnt at college (Group Interviewee #2D, 2021). Students from the department of surveying felt that they did not need much help from enterprises when putting theory into practice (Group Interviewee #2B, 2021). Students from the department of electric-electronics visited enterprises for cooperative training for only half a day (Group Interviewee #2A, 2021). Twelve students at a time went to a gypsum factory and when students went there, the person in charge gave learners a description on the parts of the enterprise accompanied by questions and answers. One of the problems that learners encountered was the provision of safety materials like clothing, shoes and face mask. Trainees were not given the opportunity to operate machine because their visit only lasted for half day and the environment was not conducive. Group Interviewee #2A, 2021 expressed his hesitation on the effectiveness of cooperative training as actual practice on the ground was totally different from the assumption from the department of electric-electronics perspective: "*As the students, we have a lot of enthusiasm to learn by doing. We love to work and learn in industries because that is why we are in the college: to learn. However, from what we have experienced so far, we have learned that company owners were overprotective and were highly concerned about their business. They did not allow us to learn by doing for they worry about the risk that might occur upon their company."*

Thus, it is possible to conclude that readiness to engage in cooperative training with TVET colleges varies from organisation to organisation. As Group Interviewee #1C and D, 2021 said *"Learners go to enterprises to get practical knowledge which needs thoughtful consideration and preparation. From our observation, we have seen that enterprises did not have any preparation and readiness to help students".*

4.2.1.7 Financial support

Financial support for cooperative training incurs its own costs: cost for transportation, lunch or related costs. Participants explained that there was no funding for pocket money or to cover their costs in any form. Learners strongly argued the need for subsidies when they were out for cooperative training. One of the challenges that students face in cooperative training was lack of funding (scholarship) (Group Interviewee #1, 2021). There were times when students were required to wear uniform (suit and tie when going to the bank); however, the majority of students could not afford to fulfil such kind of requirement. It was generally thought that TVET colleges and enterprises should give due attention to the programme and its preparation which should include financial support (Group Interviewee #2, 2021).

4.1.3.8 Enterprise participation in the process of assessment

As previously discussed even though assessment is integral to the teaching and learning process, students were not assessed formally. However, in some cases experts, with whom learners were working, provided feedback informally for students themselves (Group Interviewees #1 and 2, 2021).

4.2 ANALYSIS AND INTERPRETATION OF QUANTITATIVE DATA

This part of the research focuses on reporting the quantitative aspect of the research. Quantitative data were collected using questionnaires completed by 80 instructors and 150 students. The findings emerging from the analysis are presented two sub-sections.

4.2.1 Analysis and Interpretation of Data from Instructors

A questionnaire was sent to 80 instructors the data have been tabulated, interpreted and analysed using Tables 4.1 to 4.12 as follow:

Table 4.1 depicts the demographic characteristics of instructor respondents which mainly focus on description of gender, qualification and work experiences.

Table 4.1: Demographic characteristics of instructor respondents

Item			Frequency	Percent	Valid Percent	Cumulative Percent
1	**Gender**	Male	68	85.0	85.0	85.0
		Female	12	15.0	15.0	100.0
2	**Qualification**	Diploma	1	1.3	1.3	1.3

Item			Frequency	Percent	Valid Percent	Cumulative Percent
		Degree	76	95.0	95.0	96.3
		MA/MSc	3	3.8	3.8	100.0
		Total	**80**	**100.0**	**100.0**	
3	**Service Year**	0-5 years	8	10.0	10.0	10.0
		6-10 years	37	46.3	46.3	56.3
		+10 years	35	43.8	43.8	100.0
		Total	**80**	**100.0**	**100.0**	

As shown above in item 1, 85% (68) of the respondents were male and 15% (12) of them were female. Item 2 of the same table describes the qualifications of the participants. Only1.3 % (1) of the respondents was a diploma holder, 95% (76) were degree holders and 3.8% (3) had achieved an MA/MSc. This implies that almost all respondents met the minimum requirement to serve as instructors in TVET colleges. The third item was designed to look at the work experience of instructor respondents. Some 10% (8) of participants have 0-5 years of work experience. About 46.3% (37) of the respondents have between 6 and 10 years of work experience and 43.8% (35) have more than ten years of experience. The information provided by the respondents was reliable and valid in that the majority of the respondents provided information based on their lived experiences.

Training is a purposeful activity which requires proper planning and preparation ahead of the time to ensure that students obtain necessary skills. In this regard, Table 4.2 assessed readiness of the enterprises for the success of cooperative training as viewed by instructor respondents. Respondents were asked if enterprises assign a focal person, assign focal persons who were competent, enterprises were organised and treat trainees as individuals and if there is an established framework to forge TVET enterprise partnerships.

Table 4.2: Readiness of enterprises for the success of cooperative training as viewed by instructors

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	Enterprises assign focal persons who facilitate cooperative training	80	3.34	1.067	7.5	12.5	28.7	41.3	10.0
2	Focal persons assigned by enterprises are highly competent	80	2.96	1.024	7.5	23.8	41.3	20.0	7.5
3	Enterprises are well organised and treat trainees as individuals	80	2.43	1.134	21.3	40.0	18.0	15.0	5.0

4	There is an established framework to forge TVET and enterprise partnerships	80	3.16	1.185	10.0	20.0	26.3	31.3	12.5

Item 1 reports on enterprises assigning a focal person: the mean score and standard deviation were 3.34 and 1.067 respectively. In line with this, 7.5% of participants strongly disagreed and 12.5% disagreed that focal persons were assigned to facilitate cooperative training. Some 41.3% agreed and 10% strongly agreed to the same question which implies that almost half of the respondents believe that enterprises assign focal person to facilitate cooperative training. Item 2 reported on whether the assigned focal persons were competent. The mean score and standard deviation were 2.98 and 1.024 respectively. The mean score was below average which indicates that a greater number of the respondents have no confidence on the competency of assigned focal persons to facilitate cooperative training. Percentages of the same question were computed to discuss the data in detail: 7.5% strongly agreed and 20.0% agreed while 41.3% were undecided, 23.6% disagreed and 7.5% strongly disagreed. Thus, majority of the respondents lack confidence in competency of focal persons.

Item 3 checked if enterprises are well organised and treat trainees as individuals who need different kinds of support to develop positive attitude and acquire necessary skills. The mean value and standard deviation were 2.43 and 1.134 respectively. The result indicates that enterprises did not treat trainees as individuals which affect the student learning activity. The data obtained from the respondents was also calculated using percentages for detailed explanation: 21.3% and 40.0% of the participants strongly disagreed and disagreed respectively while 15.0% and 5.0% agreed and strongly agreed respectively on the question raised to check if enterprises are well organised and treat trainees individually. This shows that a significant majority of respondents did not believe that enterprises exerted efforts to help trainees to acquire necessary skills which affect their attitude in either of the ways.

Item 4 reported on whether a framework was established to guide TVET and enterprise partnerships. The mean score and standard deviation were 3.16 and 1.185 respectively which implied that the response was somewhat moderate. For further description, the percentages were computed and it emerged that 12.5% and 31.3% of the respondents strongly agreed and agreed correspondingly that there was an established framework to forge TVET and enterprise partnerships, while 26.3% were not certain and 10.0% and 20.0% strongly disagreed and disagreed respectively to the same question. This shows that instructors themselves were not

confident about the existence of a framework designed to guide TVET enterprise partnerships which affects the efficiency of cooperative training to a great extent. One of the main reasons for sending students to enterprises is to engage students in practical activities so that they learn by doing. Both TVET and enterprise should know that learners need to participate in actual activities, which requires willingness and commitment of enterprisers to create a favorable environment for learners to participate in practical activities.

Table 4.3: Involvement of trainees in practical activity as viewed by instructors

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	Enterprises have confidence in trainees' skill	80	2.24	.830	21.3	37.3	37.5	3.8	-
2	Trainees are allowed to be engaged in hand-on practices	80	2.25	.893	20.0	45.0	25.0	10.0	-
3	Trainees are not allowed to use the resources as much as required	80	3.64	.997	5.0	5.0	28.7	43.8	17.5

Table 4.3 explored the involvement of trainees in practical activities during cooperative training. Participants were asked to find out if enterprises have confidence in trainees' skill, whether trainees were engaged in hands-on practices and whether or not they were allowed to use the resources as much as required. Accordingly table 4.3 item 1, depicts the mean value and standard deviation 2.24 and 0.530 which confirmed that enterprises confidence on trainees' skill is low as viewed by instructors' respondents. For the sake of elaboration, the data were computed in percentages and portrayed as follow: 21.3% of respondents strongly disagreed, 37.3% disagreed and 37.3% were uncertain. However, 3.8% of respondents replied positively regarding enterprises' confidence in the skill of students. This shows that the majority of instructor respondents believe that enterprises lack confidence in the competency of trainees. Item 2 reported on whether trainees could learn by doing in enterprises. The mean value and standard deviation were 2.25 and 0.893 respectively which show that the mean score is very low. On the other hand, 20.0% and 45.0% of respondents strongly disagreed and disagreed respectively and 25.0% of the respondents were not certain. However, 10.0% of participants replied positively. Thus, significant majority of the respondents were not convinced that enterprises allow students to engage in hands-on practice. The 3rd item is meant to cross-checked the question rose in item 2 by reporting on trainees' use of resources. The mean value and standard deviation were 3.64 and 0.997 respectively with the mean score found to be above

average. In line with this, 17.5% and 43.8% of respondents strongly agreed and agree respectively; 28.7% were hesitant and 10.0% of the respondents disagreed. This shows that significant majority of participants of the research believe that trainees are not allowed access to the available resources in enterprises which deter the process of student learning.

Enterprises are new environments for students and are required to give briefings, communicate the norm and value of the organisation and how students should behave during their stay. Table 4.4 explored the nature of student support system offered by enterprises to ensure effective cooperative training. In line with this, instructor respondents reported on whether there is an established support system in place, the nature of correlation between what is learned at TVET colleges and training given in enterprises and if enterprises prepare a variety of tasks in advance.

Table 4.4: Student support system in enterprises as viewed by instructors

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	There is established support system in enterprises	80	2.05	.899	32.5	35.0	27.5	5.0	-
2	There is strong correlation between what is learned in TVET colleges and training given in enterprises	80	3.43	1.041	2.5	18.8	27.5	36.3	15.0
3	Enterprises prepare a variety of tasks for trainees in advance	80	1.65	.677	46.3	42.5	11.3	-	-

Item 1 reported on the support system established in enterprises. The mean score and standard deviation were 2.05 and 0.899 respectively which indicates a low mean value. To elaborate, the data were converted into percentages and reveal that 32.5% of participants strongly disagreed, 35.0% disagreed and 27.5% were ambivalent; however, 5.0% believed that enterprises have the support system to create a constructive learning environment. This means that the majority of instructor respondents do not believe that enterprises have established a support system designed to foster cooperative training. Item 2 focused on assessing the correlation between the learning experiences provided at TVET colleges and the practices learners were engaged in. The mean score and standard deviation were 3.43 and 1.041 respectively. Only 2.5% of participants strongly disagreed, 18.8% disagreed and 27.5% were ambivalent; however, 36.3% and 15.0% of the respondents agreed and strongly agreed

respectively. This affirmed that the majority of respondents were convinced that there was a correlation between what students learn at TVET colleges and the training given in enterprises. Item 3 reported on enterprises preparing a variety of tasks in advance to enhance the process of student learning. Accordingly, the mean value and standard deviation were 1.65 and 0.677 respectively which indicates a very low mean score. As far as the percentage is concerned, 46.3%, 42.5% and 11.3% of the respondents strongly disagreed, disagreed and were undecided respectively. This implies that a significant majority of respondents were not convinced that enterprises prepare a variety of tasks for trainees in advance which would help learners to utilise their time effectively and develop skills required for their future careers.

Enterprises are key actors in cooperative training where students could be given the opportunity to put into practice the theory learnt at TVET colleges. Trainees are expected to spend 70% of their time in enterprises. Table 4.5 assessed the conditions found at enterprises for cooperative training. The study tried to investigate if enterprises had an appropriate place for training, whether there was a mismatch between number of trainees and spaces available in enterprises and whether enterprises were well equipped with training materials.

Table 4.5: Appropriateness of enterprises for cooperative training as viewed by instructors

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	Enterprises have an appropriate place for training	80	2.11	.729	18.8	53.8	25.0	2.5	-
2	There is a mismatch between the number of trainees and space in enterprises	80	3.75	1.000	2.5	8.8	23.8	41.3	23.8
3	Enterprises are well equipped with training materials	80	2.66	.856	8.8	32.5	42.5	16.3	-

Appropriateness of enterprises for learning is one of the key issues for cooperative training. Item 1 reported on whether enterprises have an appropriate place for training. The mean value

and standard deviation were 2.11 and 0.729 respectively which depicted that the mean value is significantly low. The data revealed that 18.8% of respondents strongly disagreed, 53.8% disagreed and 25.0% were undecided while 2.5% responded positively about the appropriateness of the space. Thus, the data confirmed that enterprises lack appropriate places for cooperative training which affects the quality of the training in many ways. Item 2 explored the mismatch between number of trainees and space available in enterprises. The mean score and standard deviation were 3.75 and 1.000 respectively which indicated that the mean score was above average. Some 23.8% of respondents strongly agreed and 41.3% agreed that there was a mismatch between the number of trainees and spaces available in enterprises while 23.8% were undecided; however, 8.8% disagreed and 2.5% strongly disagreed. This implied that the number of spaces available for cooperative training did not align with the number of students requiring placement for cooperative training which negatively affects the quality of training. Item 3 on the other hand, intended to find out if enterprises are well equipped with training materials. The mean value and standard deviation were 2.66 and 0.856 respectively which indicated that the mean score was below average. As far as the percentage was concerned, 8.8% of respondents strongly disagreed, 32.5% disagreed and 42.5% were uncertain. In contrast, 16.3% of respondents agreed that enterprises were well equipped with training materials. This implies that many enterprises are not well equipped with necessary training materials to ensure effective cooperative training.

Learning outcomes is the blueprint in the TVET training programme. All stakeholders should be conversant with it and adhere to it. As enterprises are one of the key stakeholders in determining the success of cooperative training, they are expected to be knowledgeable about the learning outcomes. Table 4.6 presents enterprise awareness of learning outcomes as viewed by instructor respondents. The key issues were TVET College involvement of enterprises in the planning of learning assessment, awareness of the learning outcomes of a given trade and awareness of occupational standards.

Table 4.6: Enterprise awareness of learning outcome as viewed by instructors

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	TVET involves enterprises in planning learning assessments	80	1.99	1.025	38.8	37.5	10.0	13.8	-

2	Enterprises are aware of learning outcomes of a given trade	80	2.35	1.045	26.3	28.7	28.7	16.3	-
3	Enterprises are aware of occupational standards	80	2.05	.761	20.0	61.3	12.5	6.3	-

Item 1 reported on enterprise involvement in the planning of the assessment of training. Planning of assessment is paramount as it serves as the baseline to determine if the learning objectives have been met. The mean score and standard deviation were 1.99 and 1.025 respectively which indicates that the mean score was low. To investigate description of the data in detail, the percentage were computed: 38.8% of respondents strongly disagreed and 37.5% disagreed which affirmed that TVET colleges did not involve enterprises in the process of assessment of learning; however, 13.8% of respondents replied positively. The results indicated that participation of enterprises in the process of planning was minimal. Concerning the issue of enterprises' awareness of learning outcomes of a given trade (Item 2), the mean score and standard deviation were 2.35 and 1.045 respectively which affirmed that the mean score was below average. 26.3% of respondents strongly disagreed and 28.7% disagreed that enterprises have awareness about the learning outcome of a given trade; although 16.3% responded positively. Item 3 dealt with enterprise awareness of occupational standards. The mean score and standard deviation were 2.05 and 0.765 respectively. Concerning percentage, 20.0% of respondents strongly disagreed and 61.3% disagreed, however, 6.3% responded positively which implied that enterprises have no awareness about the occupational standards of a given trade.

The process of learning and assessment are the two sides of the same coin. As learning should be backed by assessment, involvement of enterprises means assessing performance of trainees during cooperative training. Table 4.7 reports on the involvement of enterprises in assessment focusing on whether enterprises evaluate the performance of trainees objectively, if assessments done by enterprises are outcomes based and enterprises ascertained whether trainees had met the minimum standard.

Table 4.7: Involvement of enterprises in assessment as viewed by instructors

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5

1	Enterprises evaluate performance of trainees objectively	80	1.61	.703	51.2	38.3	12.5	-	-
2	Assessment done by the enterprises is outcomes based	80	1.64	.661	46.3	43.8	10.0	-	-
3	Enterprises check out if trainees meet the minimum standards	80	1.71	.620	37.5	53.8	8.8	-	-

Item 1 reported that 51.2% of respondents strongly disagreed and 38.3% disagreed that enterprises evaluate the performance of trainees objectively with 12.5% not being certain. The mean score and standard deviation were 1.61 and 0.703 respectively. The result depicts that involvement of enterprises in evaluation was under question. The second item resulted in a mean score and standard deviation of 1.64 and 0.661 respectively. In line with this, 46.3% of respondents strongly disagreed and 43.8% of them disagreed that assessment done by the enterprises was outcomes based which implied that almost all respondents believe that enterprises were not assessing trainees and did not take into the learning outcomes consideration. Item 3 show if enterprises check out if trainees meet the minimum standards and the mean score and standard deviation were 1.71 and 0.620 respectively. To discuss the data further, percentages were computed so that 37.5% of respondents strongly disagreed, 53.8% also disagreed while 8.8% were undecided on whether trainees met the minimum standards. The result indicates that enterprises did not bother to check if trainees meet the minimum standards.

One of the determining factors that affect the effectiveness of cooperative training is the level of difficulty of training organised by enterprises. The level of difficulty of training should be within the margin of students' capacity. Table 4.8 presents the results related to the level of difficulty of learning experiences being administered in enterprises. The respondents were asked if the skills provided by the enterprises were too easy, interesting or challenging.

Table 4.8: Difficulties of training in enterprises as viewed by instructors

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	Trainees do not learn a lot because the skills provided by enterprises are too easy	80	2.89	.914	6.3	22.5	53.8	11.3	8.3
2	Skills provided by enterprises are interesting	80	2.68	1.077	16.3	30.0	23.8	30.0	-
3	Skills provided by enterprises are challenging	80	3.70	.986	2.5	10.0	22.5	45.0	20.0

4	Trainees cannot comprehend the skills provided by enterprises because skills are too difficult	80	1.99	.974	33.8	45.0	12.5	6.3	2.5

Item 1 reports on whether skills provided by enterprises were too easy. In response to the question, the mean score and standard deviation were 2.89 and 0.914 respectively. As far as the percentage was concerned, 6.3% of respondents strongly disagreed, 22.5% disagreed and 53.8% of respondents were not sure; however,11.3% agreed and 8.3% strongly agreed that the skills were too easy which implies that enterprises are unaware of the level of skills that need to be developed. Item 2 resulted in a mean score and standard deviation of 2.68 and 1.077 respectively. When the data were computed, 16.3% of respondents strongly disagreed and 30.0% disagreed while 23.8% of the participants were indifferent and 30.0% of respondents agreed that the skills provided by enterprises were interesting. This shows that the majority of respondents negated the view that skills provided by enterprises were interesting. Item 3 reported that the skills provided by enterprises were challenging. The mean score and standard deviation were 3.70 and 0.986 respectively. In terms of percentages, 20% of respondents strongly agreed and 45.0% agreed with the fact that skills provided by the enterprises were challenging; however, 10.0% disagreed and 2.5% strongly disagreed. Thus, it is possible to infer that the skills provided by enterprises are challenging which require learners to be motivated and put in great effort to apply the theoretical knowledge and develop their skills. Item 4 resulted in a mean score and standard deviation of 1.99 and 0.974 respectively. Some 33.8% of respondents strongly disagreed and 45.0% disagreed; however, 6.3% agreed and 2.5% strongly agreed that trainees cannot comprehend the skills provided by enterprises because of the difficulty. The result indicates that it is possible to affirm that the level of difficulty cannot be taken as an inhibiting factor to the development of trainees' skills.

The assumption behind cooperative training is that it assists learners in applying the theoretical knowledge learnt at college during cooperative training with enterprises which in turn could help in producing skilled manpower. Table 4.9 reports on the role of cooperative training developing trainees' confidence.

Table 4.9: Contribution of cooperative training to boost trainees' confidence as viewed by instructors

No.	Items	N	M	SD	Percentage

					1	2	3	4	5
1	Cooperative training helps to boost trainees' confidence	80	3.91	1.070	5.0	3.8	20.0	37.5	33.8
2	Enterprises uses advanced technology as compared with facilities in TVET colleges	80	2.60	1.176	20.0	31.3	22.5	21.3	5.0
3	Cooperative training is not productive	80	2.25	1.073	25.0	40.0	27.5	7.5	-

Table 4.9; item 1, is meant to find out if cooperative training helps to boost trainees' confidence and resulted in a mean value and standard deviation of 3.91 and 1.070. To communicate the same issue differently, the data revealed that 5.0% of respondents strongly disagreed and 3.8% disagreed, while, 37.5% of the participants agreed and 33.8% of them strongly agreed that cooperative training helps to boost trainees' confidence. Item 2 is related to the technology used by enterprises. The mean value and standard deviation were 2.60 and 1.176 respectively. Interpreting the data using percentages affirmed that 20.0% of respondents strongly disagreed, 31.3% disagreed and 22.5% were indifferent; however, 21.3% of the respondents agreed and 5.0% strongly agreed that enterprises used advanced technology as compared with facilities in TVET colleges. This implied that a greater percentage of respondents did not believe that enterprises use advanced technology. Item 3 dealt to find out if cooperative training is not productive and mean value and standard deviation were 2.25 and 1.073 respectively. On the other hand 25.0% of respondents strongly disagreed and 40.0% disagreed, while 27.5% of the respondents were indifferent. Only 7.5% of the respondents have agreed that cooperative training was not productive. This shows that significant majority of respondents were hesitant with the claim that 'cooperative training is not productive' as they believe cooperative training contributes in enhancing quality of the student learning.

Table 4.10 deals on the contribution of enterprises in enhancing the quality of cooperative training, taking into account whether training provided in enterprises gives learners the opportunity to develop their skills, contributes to producing a competent workforce, enhances the quality of the workforce and is helpful in familiarising learners with the world of work.

Table 4.10: Contribution of enterprises to enhance quality training as viewed by instructors

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5

1	Training provided in enterprises gives an opportunity to develop the skill of trainees	80	3.10	1.393	21.3	10.0	23.8	27.5	17.5
2	Training provided in enterprises contributes to producing a competent workforce	80	2.63	1.286	17.5	41.3	16.3	11.3	13.8
3	Training provided in enterprises contributes to enhancing the quality of training	80	2.98	1.396	10.0	42.5	12.5	10.0	25.0
4	Training provided in enterprises is relevant in familiarising students with the world of work	80	3.78	1.359	10.0	13.8	3.8	33.8	38.8

Item1 resulted in a mean value and standard deviation of 3.10 and 1.393. To portray the results using percentages, 21.3% of respondents strongly disagreed and 10.0% disagreed that training provided in enterprises contributed in developing trainees' skills while, 23.8% of the participants were found to be indifferent; however, 27.5% agreed and 17.5% strongly agreed that training provided gave students the opportunity to develop their skills. This implies that below average number of respondents believed that training offered in enterprises gave students the opportunity to develop skills. Item 2 reports on training provided in enterprises contribute to producing competent workforce. The mean score and standard deviation were 2.83 and 1.286 respectively. For further description, percentages were computed and revealed that 17.5% of respondents strongly disagreed, 41.3% disagreed and 16.3% were indifferent; while 11.3% of respondents agreed and 13.8% strongly agreed. This showed that the majority of the respondents were not convinced that the contribution of cooperative training contributed to produce a competent workforce.

Item 3 displayed the result of whether the training provided in enterprises contributes to enhancing the quality of training and the mean score and standard deviation were seen to be 2.98 and 1.306 respectively. Some 10.0% of respondents strongly disagreed, 42.5% disagreed and 12.5 were undecided; however, 10.0% disagreed and 25.0% strongly disagreed. This confirmed that more than an average percentage of respondents were not convinced that training offered in enterprises contributed to enhancing the quality of training. Item 4 with a mean value and standard deviation of 3.78 and 1.359 respectively portrayed the view of respondents that training offered in enterprises was relevant in familiarising the students with the world of work. This revealed that the majority believed that training provided in enterprises was beneficial in familiarising students with the world of work.

TVET is a purposeful activity designed to produce a skilled workforce and in collaboration between vocational schools and enterprises, cooperative training is being undertaken. According to TVET guideline developed by the Ministry of Education, trainees are expected to spend 70% of their time in enterprises to acquire practical skills. Table 4.11 reported on actual practice with regard to appropriate training and time allotted for cooperative training to achieve the expected learning outcomes.

Table 4.11: Duration of cooperative training as viewed by instructors

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	Time allotted for cooperative training is appropriate	80	3.16	1.195	13.8	12.5	27.5	36.3	10.0
2	Duration of the placement in enterprises fits with the expected learning outcomes	80	2.93	1.412	17.5	28.7	18.8	13.8	21.3

Item 1 reported on the time allocated for the cooperative training. The mean score and standard deviation were 3.16 and 1.195 respectively. Some 13.8% of respondents disagreed strongly, 12.5% disagreed and 27.5% were indifferent; however, 36.3% agreed and 10.0% strongly disagreed. This result indicates that a large percentage of instructors were not confident that the time allotted for apprenticeship was appropriate. Item 2 examined the duration of student placement in enterprises and its alignment with expected learning outcomes. The mean value and standard deviation were 2.93 and 1.412 respectively. In line with this, 17.5% of respondents strongly disagreed, 28.7% disagreed and 18.8% were undecided; however, 13.8% agreed and 21.3% strongly agreed that the duration of the placement in enterprises went well with the expected learning outcomes. This implied that placement of students in cooperative training has not been supported by proper planning, execution and close follow-ups.

Enterprises are established for the attainment of specific objectives that might not align with TVET institutions and which could affect their commitment. Government and other stakeholders responsible for quality training are expected to be aware of the fact and act accordingly. In accordance with this, Table 4.12 explored the issue of compensation for enterprise participation in cooperative training.

Table 4.12: Compensation for participation in cooperative training as viewed by instructors

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	Enterprises are incentivised for their participation in cooperative training	80	2.05	.810	22.5	57.5	12.5	7.5	-
2	Enterprises are compensated for their participation in cooperative training	80	1.73	.675	40.0	47.5	12.5	-	-
3	There is an established system for compensation whenever damage has occurred	80	1.55	.614	51.2	42.5	6.3	-	-

Item 1 reports on enterprises being incentivised for their participation in cooperative training. The mean score and standard deviation were 2.05 and 0.810 respectively. Generally, the responses from instructor respondents were found to be negative. To discuss this further, percentages were computed: 22.5% of respondents strongly disagreed, 57.5% disagreed and 12.5% were undecided; however, 7.5% agreed. The results suggest that enterprises were not incentivised for their participation in cooperative training which would affect willingness and commitment to a great extent. Item 2 revealed a mean score and standard deviation of 1.73 and 0.675 respectively. The distribution of results reveals that 40.0% of respondents strongly disagreed and 47.5 disagreed while, 12.5% were undecided. This indicates that enterprises were not compensated for their participation in cooperative training which might have an adverse impact on success of the programme. Item 3 reports on whether there was an established system for compensation whenever damage was occurred. The mean score and standard deviation were 1.55 and 0.614 respectively which was extremely low: 51.2% of respondents strongly disagreed and 42.5% disagreed while, 6.3% were undecided. The results indicate that enterprises did not receive compensation if damage occurred during training, which might result in enterprises being overprotective of their equipment and resources and unwilling to allow the trainees to learning by doing.

4.2.2 Analysis and Interpretation of Data from Students

A questionnaire was completed by 150 students. The data have been tabulated, interpreted and analysed using Tables 4.13 to 4.21 as follow:

Students are the prime targets affected by the quality of service being provided by enterprises during cooperative training. In this regard, Table 4.13 presents results of enterprise readiness to implement cooperative training.

Table 4.13: Readiness of enterprises for the success of cooperative training as viewed by students

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	Enterprises assign focal persons who facilitates the cooperative training	150	3.73	1.117	8.7	3.3	17.3	48.0	22.7
2	Focal persons assigned by enterprises are highly competent	150	2.70	.925	8.7	34.7	36.0	19.3	1.3
3	Enterprises are well organised and treat trainees as individuals	150	2.48	.864	12.0	40.0	35.7	10.7	7.0

Item 1 with a mean score and standard deviation of 3.73 and 1.11 respectively report on the appointment of an enterprise focal person. In line with this, 8.7% of respondents strongly disagreed, 3.3% disagreed and 17.3% were undecided however, 48.0% agreed and 22.7% strongly agreed. This implied that the majority of respondents believe that enterprises had assigned a focal person to facilitate cooperative training. Item 2 reported on the competence of the assigned focal persons. The mean score and standard deviation were 2.70 and 0.925 respectively. The mean score was below average. Percentages were computed to discuss the data in detail: 1.3% of respondents strongly agreed and agreed; while, 36.0% were undecided; however, 34.7% disagreed and 8.7% strongly disagreed. Thus, the majority of the respondents lack confidence in the competence of the focal persons. Item 3 with a mean value and standard deviation of 2.48 and 0.864 respectively, ascertained if enterprises are well organised and treat trainees as individuals who need different kinds of support to develop positive attitude and acquire necessary skills. The result depicted that trainees were not treated as individuals which affects their learning activity to a great extent. The data were calculated using percentages: 12.0% and 40.0% of respondents strongly disagreed and disagreed respectively while, 35.7% were indifferent; however, 10.7% agreed and 7.0% of student respondents strongly agreed. This revealed that a significant majority did not believe that enterprises exerted efforts to help trainees to acquire the necessary skills which affected their attitude and the development of the required skills.

Students were sent to enterprises to engage in practical activities, that is, to put into practice the theory learnt at TEVT colleges; however, their engagement in practical activities was

conditioned by number of factors. Table 4.14 reports of the involvement of trainees in practical activities during cooperative training.

Table 4.14: Learner engagement in practical activities in enterprises as viewed by students

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	Enterprises have confidence in trainees' skill	150	2.52	.995	19.3	26.0	38.7	15.3	7.0
2	Enterprises believe that students/apprentices have the capacity to operate machines/materials in the organisation	150	2.2	.920	24.7	39.3	28.0	7.3	7.0
3	Trainees are allowed to engage in hand-on practices	150	2.38	1.13	22.7	40.7	17.3	14.7	4.7
4	Trainees are not allowed to use the resources as much as required	150	3.61	1.09	2.7	18.7	14.0	44.7	20.0

Item 1 reported on enterprises' confidence in student competency. The mean value and standard deviation were 2.52 and 0.995. The data were computed in percentages and portrayed as follows: 19.3% of respondents strongly disagreed, 26.0% disagreed and 38.8% were in doubt; however, 15.3% agreed and 7.0% strongly agreed. The results indicate that enterprises did not have confidence in competence of students. Item 2 reported on enterprises' belief that students have the capacity to operate machinery during cooperative training. The mean value and standard deviation respectively were 2.2 and 0.920. On the other hand, 24.7%, 39.3% and 28.0% of respondents strongly disagreed, disagreed and were undecided respectively; however, 7.3% and 7.0% agreed and strongly agreed. The results indicate that enterprises were not confident that students have the necessary capacity to operate machinery. Item 3 with a mean score and standard deviation of 2.38 and 1.12 respectively revealed that respondents do not believe that they were permitted to be engaged in hands-on practice as much as required to develop their skills during cooperative training. Item 4 aligns with Item 3. The mean value and standard deviation were 3.61 and 1.09 respectively. The mean score was found to be above average. When the percentages were computed, 2.7% and 18.7% of the respondents strongly agreed and agreed respectively with 14.0% being hesitant; however, 44.7% agreed and 20.0% strongly agreed. This showed that a significant majority of respondents believe that they were

not allowed to use the available resources in enterprises during cooperative training which could have hindered the process of student learning.

Students are sent to enterprises in order to practise what they have learnt theoretically in TVET colleges. The process of learning might be affected by the support system in enterprises, for example. Table 4.15 reports on the nature of the students' support system in enterprises to ensure that cooperative training is effective.

Table 4.15: Students' support system in enterprises as viewed by students

No	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	There is an established support system in enterprises	150	2.35	.867	18.0	37.3	36.7	8.0	-
2	There is strong correlation between what students have learnt at TVET college and the learning opportunities in the enterprises	150	3.11	1.29	14.7	17.3	27.3	23.3	17.3
3	Enterprises prepare different kinds of learning experiences that helps to enhance trainee skills	150	2.33	.967	21.3	38.0	26.7	14.0	-

Item 1 reported on the support system in place in enterprise for students during cooperative training. The mean score and standard deviation were 2.35 and 0.867 respectively. To further elaborate on the responses, the data were converted into percentages:18.0% of participants strongly disagreed, 37.3% disagreed and 36.7% were ambivalent; however, 8.0% of the respondents believe that enterprises have a support system in place to create a conducive learning environment to foster cooperative training. Item 2 reported on the correlation between the learning experiences provided in TVET colleges and the practices in which learners were engaged. The mean score and standard deviation were 3.11 and 1.29 respectively: 14.7% of respondents strongly disagreed, 17.3% disagreed and 27.3% were ambivalent; however, 23.3% and 17.3% of the respondents agreed and strongly agreed respectively which indicated that a significant number of student respondents were convinced of a correlation between what they learnt at college and the training given in enterprises. Item 3 reported on the varieties of tasks prepared for cooperative training to enhance the process of student learning. The mean value and standard deviation were 2.33 and 0.967 respectively, with a very low mean score. As far

as the percentages was concerned, 21.3%, 38.0% and 26.7% of the respondents strongly disagreed, disagreed and were undecided respectively; however, 14.0% of respondents agreed, which implies that a significant majority of student respondents were not convinced that enterprises prepared a variety of tasks in advance for students to engage in. The results seem to suggest that student do not benefit from cooperative training as they are not given the opportunity to utilise their time effectively and develop skills required for their future careers.

TVET students should engage in cooperative training to put into practice the theory that they have learnt at TVET colleges. Effectiveness of the process of learning among other things, is conditioned by appropriateness of the learning environment. Table 4.16 reports on the appropriateness of the enterprise to conduct cooperative training.

Table 4.16: Appropriateness of enterprises for cooperative training as viewed by students

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	Enterprises have an appropriate place for training	150	2.06	.770	22.0	54.7	18.7	4.7	-
2	There is a mismatch between the number of trainees and spaces in enterprises	150	3.64	1.044	1.3	13.3	30.7	29.3	25.3
3	Enterprises are well equipped with training materials	150	3.30	1.442	14.7	19.3	16.0	20.7	29.3

Item 1 reports on the appropriateness of the enterprise for cooperative training. The mean value and standard deviation were 2.06 and 0.770 respectively which indicates that the mean value was significantly low. The data converted to percentages indicate that 22.0% of respondents strongly disagreed, 54.7% disagreed and 18.7% were undecided; however, only 4.7% responded positively. Thus, it is possible to deduce that enterprises have no appropriate place

for cooperative training which affects the quality of the training in many ways. Item 2 with a mean score and standard deviation of 3.64 and 1.044 indicates that 25.3% of respondents strongly agreed and 29.3% agreed that there was a mismatch between the number of trainees and the available spaces in enterprises. Some 30.7% were undecided, 13.3% disagreed and 1.3% strongly disagreed. This implies that there was a mismatch between the number of students and spaces available to accommodate students for cooperative training which might hinder the process of student learning. Item 3 with a mean value and standard deviation of 3.30 and 1.442 respectively depicted an average mean score. As far as the percentages was concerned, 14.7% of respondents strongly disagreed, 19.3% disagreed while 16.0% were indifferent; however, 20.7% agreed and 29.3% strongly agreed that enterprises were well equipped with training materials. This showed a significant number of student respondents believe that enterprises are equipped with the necessary training materials.

As enterprises are key stakeholders engaged in the process of training TVET students, assessment is vital to ascertain the development of practical skills. Both TVET colleges and enterprises should identify trainees' gaps through assessment which would them inform further learning ensure the development of skilled manpower. Table 4.17 reports on the involvement of enterprises in assessing the performance of trainees.

Table 4.17: Involvement of enterprises in assessment as viewed by students

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	Enterprises evaluate the performance of trainees objectively	150	1.83	.833	40.7	40.0	15.3	4.0	-
2	Assessment done by the enterprises is outcomes based	150	1.76	.720	40.7	42.7	16.7	-	-
3	Enterprises check if trainees meet the minimum standards	150	1.96	.896	34.7	42.0	16.0	7.3	-

Item 1 reports on whether enterprises evaluate the performance of trainees objectively during cooperative training. The mean score and standard deviation were found to be 1.83 and 0.833 respectively. In line with this, 40.7% of the respondents strongly disagree, 40.0% disagree and 15.3% were not sure; however, 4.0% of participants responded positively on objective evaluation of enterprises. Based on the results, it is possible to say that involvement of

enterprises in evaluation is under question. Item 2, with a mean score and standard deviation were found to be 1.76 and 0.720 respectively, found that 40.7% of respondents strongly disagreed and 42.7% disagreed; while, 16.7% were uncertain. This implies that a significant majority of respondents believed that enterprises did not assess trainees taking into consideration the learning outcomes. Item 3, with a mean score and standard deviation of 1.96 and 0.896 respectively, revealed that 34.7% of respondents strongly disagreed, 42.0% disagreed while 16.0 were uncertain; however, only 7.3% agreed with the claim that enterprises check if trainees meet the minimum standards. The finding indicates that enterprises are not involved in ascertaining if trainees meet the minimum standards.

Cooperative training should be well designed and satisfy the learning needs of TVET students otherwise it could affect learner motivation. Learner motivation in turn can be greatly affected by the level of difficulty of the learning experience which should be within the margin of student capacity. Table 4.18 reports on the level of difficulty of learning experiences being administered in enterprises.

Table 4.18: Difficulties of training in enterprises as viewed by students

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	Trainees do not learn a lot because the skills provided by enterprises are too easy	150	2.42	.998	21.3	30.7	33.3	14.0	7
2	Skills provided by enterprises are interesting	150	1.98	.983	39.3	32.0	19.3	9.3	-
3	Skills provided by enterprises require great effort	150	2.78	1.20	15.3	30.7	23.3	22.0	8.7
4	Trainees cannot comprehend the skills provided by enterprises because skills are too difficult	150	2.87	1.125	13.3	24.0	30.7	26.0	6.0

Item 1, with a mean score and standard deviation of 2.42 and 0.998 respectively, revealed that 21.3% of respondents strongly disagreed, 30.7% disagreed while 33.3% were not sure; however, 14.0% agreed and 7% strongly agreed that they do not learn much as the activities are too easy. Item 2 reported that 39.3% of the participants strongly disagreed, 32.0% disagreed while 19.3% were uncertain; however, 9.3% agreed that the skills provided by enterprises were

interesting. The mean score and standard deviation were 1.98 and 0.963 respectively. This showed that the majority of the respondents negate the view that skills provided by enterprises were interesting. Item 3, with a mean score and standard deviation of 2.78 and 1.20 revealed that 8.7% of the respondents strongly agreed and 22.0.0% agreed that the skills provided by the enterprises required great effort; however, 20.7% disagreed and 15.3% strongly disagreed. Item 4 with a mean score and standard deviation of 2.87 and 1.125 respectively, revealed that 13.3% of respondents strongly disagreed, 24.0% disagreed and 30.7% were in doubt; however, 26.0% agreed and 6.0% strongly agreed.

Cooperative training is dual training where TVET colleges and enterprises each take on active roles. It is assumed that learners will get the opportunity to practise what they have learnt during their time at college to become skilful and competent which in turn could help to boost trainees' confidence. Table 4.19 reports on the contribution of cooperative training to boost trainees' confidence.

Table 4.19: Contribution of cooperative training to boost trainees' confidence as viewed by students

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	Cooperative training helps a lot to boost trainees' confidence	150	3.40	1.147	8.7	14.0	18.7	45.3	13.3
2	Enterprises use advanced technology as compared with facilities atTVET colleges	150	3.34	1.269	12.0	14.0	20.0	35.3	18.7
3	Apprenticeship is not productive	150	2.54	1.046	16.0	37.3	24.7	20.0	2.0

Item 1 revealed that 8.7% of respondents strongly disagreed, 14.0% disagreed while 18.7% were indifferent; however, 45.3%agreed and 13.3% strongly agreed that cooperative training assists in boosting trainees' confidence. The mean value and standard deviation are 3.40 and 1.147 respectively. Item 2 revealed a mean value and standard deviation of 3.34 and 1.269. Interpretation of the data using percentages affirmed that 12.0% of respondents strongly disagreed, 14.0% disagreed while 20.0% were uncertain; however, 35.3%ofrespondents agreed and 18.7% strongly agreed. This implied that a good number of respondents did not believe that enterprises use advanced technology. Item 3, with a mean value and standard deviation of 2.54 and 1.046 respectively and the percentage computed revealed that16.0% of participants

strongly disagree, 37.3% disagree while 24.7% were indifferent; however, 20.0% agreed and 2.0% strongly agreed that cooperative training was not productive. This showed that a significant majority of respondents were hesitant with the claim that cooperative training contributes in enhancing the quality of the training.

As previously explained, TVET colleges and enterprises each takes on active role in the training of students. Because students will be entering the world of work and should be competent both theoretically and practically, the role of enterprises is seen as crucial. Table 4.20 reports on the contribution of enterprises in enhancing quality training.

Table 4.20: Contribution of enterprises to enhance quality training as viewed by students

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
1	Training provided by enterprises makes a high contribution to enhance knowledge and skills of trainees	150	3.17	1.224	10.0	24.0	18.0	34.7	13.3
2	Training provided in enterprises gives opportunity to develop skills of the trainees	150	3.45	.959	3.3	9.3	40.0	33.3	14.0
3	Training provided in enterprises contributes to producing a competent workforce	150	2.75	1.117	17.3	22.0	32.0	25.3	3.3
4	Training provided in enterprises contributes to enhancing the quality of training	150	3.16	.9274	6.7	13.3	40.0	37.3	2.7
5	Cooperative training is relevant in familiarising trainees with the world of work	150	3.10	1.008	6.7	19.3	38.0	29.3	6.7

Item1 reports on the training provided by enterprises in enhancing knowledge and skills of the trainees. The mean value and standard deviation were found to be 3.17 and 1.224. To portray the findings, percentages were computed and revealed that 10.0% of respondents strongly disagreed, 24.0% disagreed while 18.0% were found to be reserved; however, 34.7% agreed

and 13.3% strongly agreed. This result implies that less than an average percentage of respondents believed that cooperative training gave students the opportunity to develop skills. Item 2, mean score and standard deviation were 3.46 and 0.959 respectively. The percentage computed revealed that 3.3% of respondents strongly disagreed, 9.3% disagreed while 40.0% were indifferent; whereas, 33.3% of the respondents agreed and 14.6% strongly agreed, which implies that only half of student respondents confirmed that cooperative training with enterprises gives them the opportunity to develop their skills. Item 3 reports on the training provided in enterprises contributing to producing a competent workforce. The mean score and standard deviation were 2.75 and 1.117 respectively. Percentages were computed and revealed that 17.3% of respondents strongly disagreed, 22.0% disagreed while 32.0% were indifferent; however, 25.3% agreed and 3.2% strongly agreed, which revealed that the majority of student respondents were not convinced that cooperative training with enterprises contributes to producing a competent workforce.

Item 4, mean score and standard deviation were 3.16 and 0.927 respectively. Which revealed that 6.7% strongly disagreed, 13.3% disagreed while 40.0% were undecided; however, 37.3% disagreed and 2.7% strongly disagreed. This depicted that the majority of respondents were not convinced that training provided in enterprises contributes to enhancing the quality of training. Item 5 revealed that the mean value and standard deviation were 3.10 and 1.008 respectively. 6.7% strongly disagreed, 19.3% disagreed while 38.0% were undecided; however, 29.3% agreed and 6.7% strongly agreed. Thus, the majority of the respondents were not convinced with the relevance of the apprenticeship in familiarising students with the world of work.

Table 4.21: Appropriateness of time earmarked for enterprises as viewed by students

No.	Items	N	M	SD	Percentage				
					1	2	3	4	5
21	Time allotted for the apprenticeship is appropriate	150	3.02	1.206	12.0	22.7	29.3	23.3	12.7
22	Duration of the placement in enterprises fits with the expected learning outcomes	150	2.41	1.105	23.3	33.3	27.3	11.3	4.7

Item1 reported on the allocation of time for the apprenticeship. The mean score and standard deviation were found to be 3.02 and 1.206 respectively. Some 12.0% of respondents disagreed strongly, 22.7% disagreed while 29.3% were indifferent; however, 23.3% agreed and 12.7%

strongly agreed, which confirmed that a good number of student respondents disagreed that the time allotted for apprenticeship was appropriate. Item 2 depicted that a mean value and standard deviation of 2.41 and 1.105 respectively. In another word 23.3% strongly disagreed, 33.3% disagreed while 27.3% were undecided; however, 11.3% agreed and only 4.7% of agreed strongly that the duration of the placement in enterprises went well with the expected learning outcomes. This implied that placement of students in enterprises for cooperative training was not supported by proper planning, execution and close follow-ups which could considered as the cause for the failure of the programme.

4.3 CONCLUSION

To conclude, this chapter presented the analysis and interpretation of data. The findings and results were presented in two sections: the analysis and interpretation of qualitative data and the analysis and interpretation of quantitative data. Qualitative data analysis and interpretation drew on data analysed from VGCOHs, enterprise focal person and group interviews with students. The data collected from the three groups were thematised, analysed and interpreted. Quantitative analysis was done on the information collected from questionnaires completed by TVET instructors and students. The results emerged were presented with mean scores, standard deviations and percentages being tabled with a discussion text and has been interpreted and analysed under different sub-headings.

CHAPTER 5: DISCUSSION OF THE FINDINGS

In Chapter 4, the data gathered using different data collection instruments were presented, analysed and interpreted. In this chapter, a discussion of the findings is presented based on the research question and a review of the related literature.

5.1 INTRODUCTION

Discussion and findings of the research is presented under different sub-headings in an attempt to answer the research questions: *To what extent is the implementation of cooperative training at TVET Colleges in Oromia Regional State effective?*

The following sections firstly look at the status of TVET colleges and the infrastructure found in TVET colleges, and enterprises, readiness of enterprises to host students for cooperative training, enterprises perception on competency of students, contribution of enterprises for success of cooperative training, time spent in enterprises for cooperative training, budget allocation for cooperative training, enterprise participation in the process of assessment and budget allocation for cooperative training.

5.2 THE FINDINGS

5.2.1 The Status of TVET Colleges

As Odu (2007, in Kennedy, 2011) discusses, the effectiveness of training provided by TVET colleges is influenced by the quality of the training materials, the readiness of trainees, the environment and minimum requirements to be eligible for the training. It was found that TVET Colleges provide training using old training materials and very little effort was made to equip and maintain classrooms and workshops utilised for training (*cf.* Chapter 4, Section, 4.1.1.1). Although the country was in dire need of crafts persons and technicians, the training programme lacked relevance to the workplace reality (MoE, 2008). There also seemed to be a mismatch between the number of students registered and the capacity of the TVET colleges. The class size in a college is expected to be 25-35 for hard skills however, it was reported that in many cases, the number of students ranged between 35-45 students per class which could have a major effect on the teaching and learning process and utilisation of resources (*cf.* Chapter

4, Section, 4.1.1.6). This means that the classes are too large and in addition, all training materials required for effective training was either outdated and/or not functioning properly.

TVET colleges were unable to purchase the required inputs to effectively support training on campus. Even when the training materials were broken or had stopped functioning properly, they were not repaired or substituted due to the budgetary constraints and other bureaucratic issues. However, some colleges had secured other sources of funding. For example, Adama TVET College had well-equipped workshops. The college had installed new machinery in the department of construction, garment, manufacturing, electric shop, automotive, woodwork and ICT workshops as a result of funding and donations by GIZ.

5.2.2 Collaboration with Enterprises

In the 21st century, technology has transformed and industries are fully automated which boosts their productivity and quality of products and services are modernized globally which in return dictate the type of training provided in TVET. Enterprises serve not only for production and delivery of service, but also as the place for learning. Workplace learning contributes to enhancing performance of individuals in organisations for it is a means of building the capacity of individuals (Giacumo*et al.,* 2018; Mumford, 2013 in Unwin & Fuller, 2003; Phillips, 2016). Among others, the technologies available in the market affect nature of the training and infrastructures used both in colleges and enterprises. The findings revealed that both enterprises and vocational training institutes have limitations in the access and utilisation of technologies although; their status differed from place to place (*cf.* Table 4.5; item 3). For example, enterprises in East Showa were in a better position as they utilised advanced technologies compared with enterprises in other areas. However, a significant majority of enterprises use rudimentary technologies that do not serve the needs and interest of students and do not meet the learning outcomes of the programme (*cf.* Chapter 4, Section, 4.1.1.7).

Enterprises are reported to be in the early stages of the development (National Planning Commission, 2016) with 30% of medium and large-scale enterprises being concentrated in Addis Ababa and the surrounding areas, while 12% were found in Oromia (CSA, 2015). More than 27% of the manufacturing industries are engaged in the production of food products and beverages, about 24% industries are engaged in non-metallic mineral production while 12% were in furniture production (CSA, 2015). The location of enterprise affects the development of partnerships with TVET colleges, particularly the type of enterprises. For example, Adama

and Bishoftu TVET colleges had access to medium and large-scale enterprises for cooperative training as the majority of medium and large enterprises were concentrated in those areas. In contrast, TVET colleges in West Hararge, Jimma and West Showa relied on small enterprises and Bako TVET College worked exclusively in partnership with small enterprises as there were no medium and large-scale enterprises in their area. Small enterprises utilised less advanced technology which might fail to address the learning need of trainees who need exposure to modern technology.

5.2.1.1 Rapport between TVET colleges and enterprises

Vocational education is a major pathway into skilled employment, considered a crucial element of workforce development for companies opening up formalised progression to further training for potential employees (Deissinger, 2015). Cooperative training might help TVET colleges in producing a competent work force that is adaptive, flexible, change-oriented and is able to resolve problems and contribute to the development of enterprises. For cooperative training to meet the aspirations of both colleges and enterprises, they need to work in collaboration and develop good rapport. Their cooperation needs to be strengthened to create a better understanding of each other's needs and identify how they can satisfy the desired objectives (Raihan, 2014). Developing sound rapport between TVET and enterprises would serve in the production of a quality labour force that would understand organisational culture (*cf*. Chapter 4, Section, 4.1.2).

Some TVET colleges provided enterprises with the opportunity to visit the college so that enterprises would be confident on the training provided in TVET. In the case of Bako TVET College, major stakeholders like the Bureau of Micro and Small Enterprises, the District TVET agency, and enterprises were involved and ensure that they work in collaboration. But, involvement of authority has not been always easy. Some government sector representatives, who have the authority to persuade and reinforce enterprises lack commitment, fail to support and bring all stakeholders on board.

The findings revealed that the rapport between TVET colleges and enterprises were complicated and mired with challenges such as communication, commitment, budget and involvement of stakeholders. Concerning communication, it has been learnt that TVETs were not on the same page. For example, in Ambo the College and enterprises did not collaborate and reflect on how things should be performed to design strategy for future improvement (*cf*.

Chapter 4, Section, 4.1.1.2). In Adama, the enterprises had not been given prior information that students would go there for cooperative training.

The findings emerging from group interviews revealed that trainees of different department had different views concerning the rapport between colleges and enterprises based on what they experienced. While students from the department of accounting and garment felt that enterprises and colleges have good rapport some students felt that the rapport between enterprises and the colleges is weak as they did not work to collaborate effectively with enterprises and make cooperative training reality. In some case, the environment was not exhaustively explored and collaboration for the benefit of students was not developed (*cf.* Chapter 4, Section, 4.1.3.2). As a result of poor collaboration and limited rapport, the quality of the training was highly compromised as the cooperative training was not been adhered to the guideline developed by the Ministry.

5.2.2.2 Awareness and implementation of cooperative training guidelines

The establishment of a framework is the basis for a TVET-enterprise partnership and both colleges and enterprises need to be aware of the guidelines developed by the Ministry of Education (MoE, 2008) to guide cooperative training. Proclamation no. 954/2016 clearly depicted that vocational education and training would have to be managed using cooperative training which would have to be communicated to all stakeholders so that they would be aware about it in advance (FDRE, 2016).TVET colleges are responsible for identifying, communicate and raise awareness of enterprises about cooperative training with identification, awareness raising, communication and collaboration with enterprises being led by the Vocational Counselling and Guidance Office (*cf.* Table 4.2, item 4 & Chapter 4, Section 4.1.1.3). The guidelines mandated TVET colleges to identify enterprises that have the capacity to host trainees and persuade enterprises to work as the co-trainers and bring all stakeholders on board. However, colleges have no power over enterprises and other stakeholders to coordinate and involve potential partners: they need cooperation and get the support of local administration. The Vocational Counselling and Guidance Offices are required to sign a Memorandum of Understanding (MOU) with enterprises and work in collaboration for the success of cooperative training. The collaboration is expected to help the process of student learning as all the necessary machineries and materials are often not available at TVET colleges (*cf.* Chapter, Section 4.1.1.).

In many cases, focal persons in enterprises were unaware of the directive from the government demanding active involvement of enterprises or had very limited or no knowledge of the guidelines. Some became aware about the guidelines after attendance at a meeting arranged to create a partnership between industries and TVET Colleges and others became aware of the existence of the guidelines during a visit from the Vocational Counselling and Guidance Office Head (*cf.* Chapter 4, Section 4.1.2). It seems that only TVET colleges were aware about the guideline as compared with the enterprises.

However, the guidelines fall short of considering the local context and in addition, did not outline the strategy how to make collaboration applicable. The implementation of cooperative training is a new phenomenon in Ethiopia unlike cooperative training implemented in Germany through time and embedded in its culture (Fürstenau *et al.*, 2014). It was reported that programmes were opened without examining the environment on the availability of enterprises that can host students for cooperative training. Training programmes were developed without critically considering the internal capacity of colleges and the availability of enterprises for cooperative training. In cases where challenges arose with sourcing partners for cooperative training, colleges developed their own strategy to reduce the effect of improper implementation of cooperative training. Ambo TVET College retained students on campus for longer period and provide necessary skills within the institution even though the institute did not have the necessary equipment and those found were outdated and semi-manual with less capacity.

5.2.2.3 Enterprise participation in the preparation and execution of the plan

Implementation of a curriculum would have to involve enterprises which in turn might help to contribute to enhance enterprises' motivation and willingness to work with TVET colleges. Different stakeholders are involved in cooperative training which needs careful planning and act accordingly (*cf.* Chapter 4, Section 4.1.1.4). In cooperative training, job-related knowledge and skill should be developed and a positive attitude inculcated in students which requires proper planning and implementation (Geda, 2016). Successful execution of any worthwhile activity is conditioned by proper planning in that training should be well planned and implemented in both colleges and enterprises with a proper delineation of learning tasks. Learning tasks should encourage experimentation and creative information gathering, and allow open and optional outcomes, which demand an open and flexible learning environment (Collin, 2009).

Determining where, how and when cooperative training would be carried out was determined by colleges: where and when should students go and the duration were fixed by the colleges. Cooperative training should involve the trainer in sharing knowledge, experience, and wisdom, creating learning opportunities, providing feedback, acting as a role model and tutoring (Ellinger *et al.*, 2011). This in turn, would require careful participation of enterprises right from the beginning stages of planning.

Enterprises would need to have knowledge of learning outcomes of a given trade. In this study, it emerged that enterprise had no role in preparation of plans and learning as this was done and executed by colleges (*cf.* Table 4.6, Item 2). In addition, planning for cooperative training was the sole activity of TVET. Enterprises had no involvement in the process of planning (*cf.* Chapter 4, Section 4.1.1.4); however, the plan of action was communicated to the enterprises briefly to effect training as they work with trainees to realise for the attainment of educational objectives (*cf.* Chapter 4, Section 4.1.2).

Enterprises would also need to know the occupational standards of a given trade. It was found that enterprises did not know the learning outcomes nor the occupational standards which meant that the cooperative learning aspect in many cases, offered little contribution to enhancing the process of student learning (*cf.* Table 4.6, Item 3).

5.2.2.4 Comparison of the number of students with available enterprises

Enterprises are established to make business which cannot be negotiated under any circumstance. On the other hand, enterprises are considered as key actors in cooperative training and are expected to provide opportunity for TVET students to practice what they have learnt theoretically by doing. Availability of enterprises is very critical issue that affects the overall process of cooperative training. Adama and Bishoftu were found to have a greater number of medium and large enterprises as compared with other research areas. In line with this, colleges in Adama and Bishoftu sent students to medium and large enterprises for cooperative training. However, problems arose as Ambo TVET College had signed MoUs with ninety-six enterprises but the majority were not in a position to host students for cooperative training.

In the Ethiopian context, a significant number of enterprises are small and characterised by shortage of capital, a poor network, lack of space for many small-scale enterprises being housed in allocated temporary ‘business’ shelters with about 55% of the small enterprises engaged in

produce food and beverage, and 85% of the manufacturing sector concentrated in milling grains (Altengburg, 2010).These small-scale businesses have very limited capacity to host trainees for cooperative training and are not equipped or skilled enough to engage in cooperative training. In addition, many small enterprises were not sustainable and had either moved to other places without communicating their whereabouts or had closed their business and some micro business enterprises were not willing to share their knowledge and skills as they considered trainees as potential competitors.

The findings revealed that many enterprises were not appropriate or well enough equipped to collaborate with TVET colleges and engage in cooperative training (*cf*. Table 4.5, Item 1). In addition, there is mismatch between the number of trainees and spaces available (*cf*. Table 4.5, Item 2). As a result of the number and the kind of enterprises located in the research area, had a negative effect on the quality of the training. In the case of Ambo, the college sent 20-30 students to an enterprise at a time which compromised the quality of cooperative training as the enterprises were not equipped to take on that number of trainees. In the case of Chiro, some 700 students who are enrolled in the department of animal production needed to be allocated for cooperative training; however, there was only one animal health centre in the area with limited intake capacity. This means that the college was forced to send 30-40 students to the centre at a time which placed the effectiveness of cooperative training under question.

To cope up with the problem of limited access to enterprises for cooperative training, vocational colleges implement a range of different strategies. Adama TVET College employed an alternating system in that when some students were engaged in cooperative training while others stayed at campus.

5.2.2.5 Readiness of enterprises to host students for cooperative training

Training in enterprises is directly relevant to students' specific needs which will help to be more knowledgeable and skillful and increase competitiveness (Billett, 2001, in Collin, 2009). Workplace learning assists students in developing the necessary skills and expertise in one's own profession (Stenstrom, 2006; Tynjala*et al.*, 2006 in Tynjala, 2009). During cooperative training, students can apply the theoretical knowledge and develop basic techniques and skills leading to high technology and management skills that are applicable to their future careers (Wang, 2018). It might be the route to strengthen the sense of self and identity as well as personal fulfilment (Lavikka, in Collin, 2009).Thus, the assumption behind the provision of

the opportunity to learn and work in enterprises is that learners will be familiarised with the work environment, develop positive attitudes and enrich knowledge and understanding in the area of their specialisation. However, enterprises are profit-making organisations and are concerned about their comparative advantage and cost that cooperative training might incur.

The findings indicate that many enterprises have reservations about collaborating with TVET colleges and were not motivated in assisting trainees in acquiring the necessary skills (*cf.*Table 4.2, Item 3). As Ambo TVET College reported some enterprises had the necessary facilities and equipment but were not willing to collaborate with TVET colleges for cooperative training (*cf.* Chapter 4, Section, 4.1.1.7). Other factors were identified and include the TVET colleges' ability to communicate with stakeholders and arrange the cooperative training and the location where colleges are situated.

For cooperative training be effectively administered enterprises are expected to assign focal persons who facilitate the whole processes. This could be counted as one of the indicators of enterprises' readiness their involvement in cooperative training. In Adama and Bushoftu, focal persons are assigned to provide assistance and guidance and mentor the trainees during their training (Interviewee #VCGOH1 and 4 2021). However, some enterprises did not assign a focal person to facilitate cooperative training (Interviewee #VCGOH2, 2021; *cf.*Table 4.2, Item 1; Table 4.13, Item 1). In some cases, the focus person lacked competency in guiding, coaching and monitoring cooperative training (*cf.*Table 4.2, Item 2; Table 4.13, Item 2). Learning in enterprises make sense if students are given the opportunity to make practical decisions and apply the decision in performing specific tasks which assists in the accumulation of experience (Collin, 2009).

Enterprises involved in cooperative training need to be well organised and treat trainees as individuals who need different kinds of support so that they develop positive attitude and acquire the necessary skills for vocational training. Learning to become competent in occupational activities involves social interaction and collaboration, asking for and giving advice in relation to everyday work activities. Rational everyday activities are completed through everyday talk, particularly in the intensity and intimacy of face-to-face interaction (Collin, 2009). Cooperative training was experienced both positively and negatively. At Adama for example, a student from the department of garment making reported that they were welcomed and given a brief explanation about the company and how the system works. They

were provided illustration how to make a specific garment and then assigned to perform the job under the supervision of company's foreman (Group Interviewee #1B, 2021).Students from the department of accounting too confirmed that they were welcomed by the branch manager and partnered them with an expert who coached the trainees (Group Interviewee #1A, 2021). Students from the department of woodwork reported that they were well received and once briefed were assigned an activity (Group Interviewee#2C, 2021) and students from construction were also given the opportunity to practise what they have learnt at campus (Group Interviewee #2D, 2021).

It was found that in many cases, enterprises lack commitment as they received trainees without any prior preparation for their training (Interviewee #VCGOH2, 2021) and this was acknowledged as student felt that enterprises were not assisting them in acquiring the necessary skills (*cf.*Table 5.13, Item 3). This issue was also illustrated with students from the department of electric electronics whose cooperative training only lasted for half a day and as a result, did not assist them in putting their learnt theory into practice (Group Interviewee #2A, 2021). In one case, students were not able to access any cooperative training even thought they had a referral letter for the TVET college (Group Interviewees #1C and D, 2021).

Safety is an issue in enterprises and the provision of safety materials like safety clothing, shoes and face masks is vital. Readiness to receive trainees for cooperative training would mean ensuring that safety regulations were communicated, and trainees issued with safety equipment.

It was reported that trainees spent 60%-70% of their training in observation and explanations (Interviewee #VCGOH3, 2021), with many students not being given the opportunity to put theory into practice with hands-on experience. Thus, the practice on the ground lacks the depth as enterprises are required to devote necessary resources and acquire competent and skilled manpower. Training in the workplace could be categorised as application of theoretical knowledge to develop practical skills in the completion of project work and tasks.

5.2.2.6 Time spent in enterprises for cooperative training

As per the Ministry of Education guidelines (MoE, 2008), learners are expected to spend 70% of their time in enterprises and 30% of their time in colleges. In many cases, this guideline was not adhered to (*cf.* Table 4.11, Item 1; Table 4.21, Item 1) with major variations of the duration of cooperative training being experienced between colleges and departments within a college. For example, some learners attended cooperative training at least for fifteen days and got the

opportunity to work and learn in enterprises in their area of specialisation (Group Interviewee #1, 2021). This included hands-on training in accounting (Group Interviewee #1A, 2021), the production of a garment (Group Interviewee #1C, 2021), woodworking skills (group interviewee #2C, 2021), on construction sites (Group Interviewee #2D, 2021) and in the field of surveying (Group Interviewee #2B, 2021).

In areas where relatively a large number of enterprises operate, colleges such as Adama and Bishoftu TVETs, had a variety of options and students from the two colleges were given opportunity to spend as much time in enterprises as the training required (Interviewee #VCGOH1 & 4, 2021) which meant that training provided in those areas aligned well with the curriculum of each programme.

In contrast, some learners were not given the opportunity to exercise what they had learned at college as they were not placed for cooperative training (Group Interviewees, #3, 2021). For example, even though the Ethiopian economy is predominantly agriculture, learners from the department of agriculture were not placed for cooperative training. Students seemed to intimate that it was as a result of the weakness of the college, in this case. However, geographical location of colleges and other related factors hindered the implementation of cooperative training. For example, students from Ambo, Jimma, Bako and Chiro had very limited opportunities due to the limited number of enterprises found in the area and lack of budget (Interviewee #VCGOH2, 2021) and students from the department of construction and building and installation in Bako did not engage in cooperative training as there was no enterprise working in the area of construction and electricity (Interviewee #VCGOH3, 2021).

The findings revealed that time earmarked for cooperative training did not in many instances align with the expected learning outcomes (*cf.*Table 4.11, Item 2; Table 4.21, Item 2), which implies that placement of students for cooperative training was not supported by proper planning, execution and close follow-ups.

5.2.2.7 Enterprises' perception on the competency of students

Learning is conditioned by consistent patterns of transaction between the individual and his or her environment (Kolb & Kolb, 2011). The role of the programmes developed by TVET colleges is to equip students with the relevant knowledge and skills for the workplace. However, these programmes were developed without giving due attention on addressing competency needed in the economy; as a result, most of the programmes were of low quality

and theory driven due to resource constraints and lack of skilled instructors (MoE, 2008). To redress the problem and ensure that students developed the theoretical knowledge and skills colleges collaborated with enterprises on cooperative training. One of the determining factors to involve learners in cooperative training is their competency in the learning environment.

The findings indicate that enterprises' confidence in trainees' skill is low (*cf.* Table 4.3, Item 1; Table 4.14, Item 1). Enterprises focal persons reported that trainees were challenged in relating what they had learnt in theory with the actual practice (*cf*. Chapter 4, Section, 4.1.2). Even though students had theoretical knowledge, they needed time to understand the machinery, how to assemble, operate and maintain it (*cf*. Chapter 4, Section, 4.1.2). Because of the perception enterprises had regarding students' competency, enterprises did not give students the opportunity to engage in hands-on practice and thus develop their skills (*cf*.Table 4.3, Item 2; Table 4.14, Item 3). Enterprises were not confident with students' ability to operate machinery or use the equipment properly as trainees lack knowledge, skills (Interviewee #VCGOH1, 2021). It was also reported that trainees lack commitment to contribute or take the initiative. In some cases, the organisations had to force students to engage them by giving tasks with close supervision and follow ups.

Attitude was also raised as an issue as trainees had the habit of overemphasising right over obligation which was found to be the main causes of mistrust and conflict between employees and the management (Interviewee #VCGOH1, 2021).

Of interest is that the level of interest and difficulty were raised as an issue of cooperative training. Students reported that cooperative trainings facilitated in enterprises were not interesting (*cf.*Table 4.8, Item 2; Table 4.18, Item 2). But the level of skills needed for the tasks were not considered to be problem for students (*cf*. Table 4.8, Item 1; Table 4.18, Item 1). In contrast, enterprises reported that tasks required greater effort by students (*cf.*Table 4.8, Item 3). Learners took too much time developing the desired skills and acquainted themselves with the organisational culture of enterprises (*cf*. Chapter 4, Section, 4.1.2).

Cooperative training should be well designed to satisfy the learning need of TVET students which can affect their motivation. Learners' motivation in turn can be greatly affected by the level of difficulty of the learning experience, interest in the task and alignment with the learning objective.

5.2.2.8 Enterprises contribution for the success of cooperative training

In principle, cooperative training is the correct approach to assist learners in acquiring and developing the relevant practical skills. As discussed in Chapter 3, the German system of cooperative training, also known as the dual system of education, enhances the successful transition from school to the world of work by training young people and equipping them with the necessary skill so that they can contribute for the economy (Fürstenau*et al.*, 2014).

In the Ethiopia context, cooperative learning could contribute to revitalising employment opportunities for learners and assist them to understand where they fit in the world of work (Interviewee #VCGOH4, 2021). Learners would have the opportunity to meet people in the area of their future careers, observe the kind of facilities available in enterprises, understand the working conditions and become aware of the desired behaviour (Group Interviewee #1, 2021). Having the opportunity to learn within enterprises would help learners to visualise the kind of businesses they might be engaged in (Group Interviewee #1B, 2021) and give them better insight for growth and development (Group Interviewee #1A, 2021). In line with this both instructor and student respondents were positive that the role of cooperative training boosts trainees' confidence (*cf*. Table 4.9, Item 1; Table 4.19, Item 1).

Cooperative learning works well for colleges situated near the capital city and in industrial zones where there is ample opportunity to collaborate and work enterprises, which aligns with Deissinger (2015) who suggests that the socio-cultural setting and functioning labour market plays a key role in success of cooperative training. Most of the enterprises selected for cooperative training in East Showa (Adama and Bishoftu) were either medium or large enterprises using advanced technology (Interviewee #VCGOH1, 2021 and #VCGOH4, 2021): while, colleges operating in peripheral parts of the country did not have the opportunity to work with medium and large enterprises (Interviewee #VCGOH3, 2021). Ambo, West Hararge and Jimma heavily relied on small and small enterprises.

The type of enterprise collaborating with colleges and offering cooperative training defines the level of technology used. Large-scale enterprises tended to be more advanced in their use of technology while micro and small enterprises tended to have very limited capacity and utilised rudimentary technology (Interviewee #VCGOH2, 3 & 5, 2021). In addition, workshops at many TVET colleges were relatively small, poorly equipped and the materials used for training were of a lesser quality compared with those found in enterprises (Group Interviewee #2

(2021). For example, the capacitor, contactor, transformer and other parts of the equipment used in the college were very much smaller than those found in enterprises (Group Interviewee #2A, 2021).

It was found that some enterprises were willing to cooperate with TVET colleges while others were reluctant (Interviewee #VCGOH3, 2021; *cf.*Table 4.9, Item 3; Table 419, Item 3). Small enterprises engaged in woodwork, masonry and the like were cooperative and willing to help trainers in mastering the skills; however, others were less committed and even hesitant to accept students and provide the opportunity for learners to put into practice the learnt theory using the resources available and some enterprises accepted students because they did not want to violate the authority

5.2.2.9 Experts' dilemma regarding experience sharing

Most learning events are embedded in normal work, so access to learning depends on the nature of the work environment and the behaviour of those involved. The key factors affecting the process of learning in enterprises are the appropriate levels of challenge and support, confidence in trainees' abilities and commitment of both trainees and trainers (Eraut, 2010). The rapport between trainees and trainers is paramount as observation, discussion and encouragement could enhance the process of learning (Eraut, 2010), particularly as willingness and commitment of trainers could determine the effectiveness of cooperative training. An expert who qualifies in each area of specialisation and assigned in a position has referent power and can determine the effectiveness of cooperative training.

Some experts were found to be highly positive and willing to share their knowledge and experiences while others were the opposite (Interviewee #VCGOH5, 2021; #EF2, 2021) as if trainees were knowledgeable and skilful, they could become competitors and be threat to the future (*cf.* Chapter 4, Section, 4.1.2; Interviewee #VCGOH5, 2021). The findings revealed that in some cases, experts obstructed the training process, working against the very purpose of cooperative training. Experts prevented students from using the machines, raw materials and withholding parts of the process of production as strategies to hinder trainees' learning.

5.2.2.10 The role of enterprises in enhancing the quality of training

Quality training are built on the support and commitment of numerous stakeholders, who should have a clear understanding of their roles and responsibilities and who also have common

purpose, which ensures the coherence of the entire system (ILO, 2019). Among others, enterprises are one of the key stakeholders engaged in cooperative training. Enterprises have vested interest in the quality of the training as they aspire to employ competent labour forces to effectively perform the job.

When learners engage in cooperative training with the active involvement of enterprises, they will be able to apply their theoretical knowledge and develop relevant practical skills. It emerged that cooperative training is considered a viable proposition to satisfy the need and interest of enterprises (*cf.* Chapter 2, section, 4.1.2 & Table 4.10, Item 1; Table 4.20, Item 2).

However, the finding revealed that the knowledge and skills gained by learners at college did not satisfy the needs of enterprises (*cf.* Chapter 2, section). On the other hand, TVET colleges encountered problem in the implementation of cooperative training as many enterprises were small and failed to meet the minimum requirement to host trainees (interviewee #VCGOH3, 2021) and the role that enterprises played in familiarising trainees with the world of work were found to be not satisfactory (*cf.* Table 5.10, Item 4; Table 5.20, Item 5). In addition, it was found that some enterprises corrupt the very purpose of cooperative training and exploit trainees (Interviewee #VCGOH4, 2021). The findings raise doubt that learners were given adequate opportunity to develop their skills and as such, there was hesitation in confirming the contribution of enterprises in the production of competent workforce (*cf.*Table 4.10, Item 2; Table 4.20, Item 3).

5.2.2.11 Student support system in enterprises

Students are sent to enterprises in order to apply what they have learnt theoretically at colleges. Sending students to enterprises gives learners the opportunity to learn through practice, engage with the work context through enactment and reflection on work practices. Reflection on their work brings to the surface much of the tacit knowledge they have developed through their unconscious action in response to their work and their work context (Down, 2006). Enterprises are however anew environment for students which might cause them to be nervous and apprehensive. To ease the anxiety, and help learners with productive engagement, enterprises are required to give briefings, communicate the norms and values of the organisation and how students should behave during their stay in enterprises. The cycle of learning (see Kolb & Kolb, 2011), comprises engaging in the experience, reflecting on the experience, learning from the

experience and trying out what has been learnt which requires support and commitment from enterprises.

The support system that enterprises put in place during cooperative training is one of the determining factors that affect the process of learning. The findings reveal that the student support system was not up to the expectation of both parties (*cf*. Table 4.4, Item 1; Table 4.15, Item 1). The learning experiences provided at college and the practices learners were exposed to during cooperative training greatly affect students learning process. The research revealed that the two entities, that is the college and the enterprise, did not work together to the level of expectation (*cf.*Table 4.4, Item 2; Table 4.15, Item 2) and in addition, many enterprises did not prepare a variety of tasks for students to complete to enrich the learning opportunity and maximise the potential of students' training (*cf.*Table 4.4, Item 2; Table 4.15, Item 2).

5.2.2.12 Enterprise participation in the process of assessment

As previously indicated assessment is integral to the teaching and learning process. Marhuenda (2009) states that to make training effective, it is necessary to plan for assessment as assessment informs further learning. During cooperative learning the performance of trainees should be assessed while they are in actual practice in enterprises. Assessment involves planning for meetings in order to create conducive environment, encourage preparation of an individualised plan for personal development and contractual agreement with trainees to be used as the reference by both parties so as to enhance the process of objective assessment.

Enterprises focal persons were required to guide the learning endeavour of students and should entail provision of feedback and check if the trainees fulfilled the minimum standards. However, the findings revealed that enterprises did not check if trainees meet minimum standard (*cf.*Table 4.7, Item 3; Table 4.17, Item 3). And it seems that many enterprises did not conduct formal evaluation and limit themselves with the provision of feedback to learners informally (*cf*. Chapter 4, Section, 4.1.2). This means that enterprises provided limited information on the progress of learners and did not complete any evaluation forms, organise students' portfolios or conduct any kind of assessment to quantify students' achievement. Thus, enterprises did not take part in systemic and formal process of assessment (*cf*. Table 4.7, Item 1; Table 4.17, Item 1).

The system of assessment of TVET colleges is quite different from other academic institutions in the country. Final assessment of learners involves a competency assessment developed the

Oromia Occupational Centre of Competency. After successful completion of the training, students are expected to sit for competency assessment test which comprises both theoretical and practical examinations. Students are awarded a certificate of completion of a given level if and only if they pass competency assessment (*cf*. Chapter 4, Section, 4.1.1.12).

5.2.2.13 Budget allocation for cooperative training

Cooperative training is one of the activities that require financing as it needs frequent interaction, discussion and reflection, training and other related costs. Rahman & Rahian (2013) note that vocational and practical subjects have a range of expensive requirements such as equipment, materials, resources, curriculum, support systems, personnel, managements requirements, and the like which are not easily met.

In the context of the research area the budget should include cost for transportation of students and instructors, lunch allowance, to purchase uniform or any other safety materials. But the findings revealed that cooperative training is not financed either by colleges, enterprises, local government or any other organizations except that fact that few attempts were made by some enterprises in East Showa by enterprises voluntarily (*cf*. Chapter 4, Section, 4.1.1.13; Section, 4.1.3.7).

5.2.2.14 Compensation provided to enterprises for their participation in cooperative training

When enterprises participate in cooperative training, they need to take into account their time and resources and the costs to their companies. The findings revealed that enterprises did not receive any compensation from local government, colleges or students themselves to offset any cost (*cf.* Chapter4, Section 4.1.2). Learners were expected to be engaged in risk free/minimum risk activities in the area of manufacturing measuring, cutting, drilling and the like which might result in wastage unless it is done carefully with precision and machinery or other production equipment might be broken or damaged (*cf.*Table 4.12, Item 3). Enterprises using advanced technologies need to do so with great caution to ensure that no damage is done. However, there is no compensation package for any kind of damage or wastage (*cf*. Chapter 4, Section, 4.1.1.14) and when enterprises and TVET colleges entered into an agreement, neither the company nor the colleges raised the issue of compensation (*cf.* Chapter4, Section 4.1.2).

Although enterprises were not incentivised for their participation in cooperative training (*cf.*Table 4.12, Item 1), there were a number of benefits. Enterprises who participated in

cooperative training were given the opportunity to take part in different kinds of capacity building trainings which might contribute to enhance technology transfer (*cf.* Chapter 4, Section, 4.1.1.14). In addition, enterprises had the opportunity to know the trainees during cooperative learning and thus have access to newly qualified skilled manpower. Enterprises receive letter of recognition for their participation in cooperative training which is helpful for small enterprises. They might be given priority to borrow money from the Saving and Credit Association if they have recognition letter from TVETs for their participation in cooperative training (*cf.* Chapter 4, Section, 4.1.1.14). Finally, involving students could be advantageous because student participation contributes to cutting the cost of production.

5.3. SUMMARY

The objective of this research was to explore the implementation of cooperative training in TVET Colleges in Orimia Regional State. The research has been designed to look at how government guidelines and policies contribute to the establishment of college-enterprises linkage in the implementation of cooperative training, find out if cooperative training satisfy students learning needs, its contribution for enhancing quality of training and commitment of enterprises in cooperative training.

1. Quality of the training among others is determined by quality of the training materials and class-size. The study revealed that the TVET colleges utilized very old training materials with little effort to maintain and make it appropriate for the training. The class size in more than average which also put another stress in the provision of training. Except Adama and Bishoftu TVET colleges who send trainees to medium and large scale enterprises, others TVET colleges send their trainees to small enterprises who utilised rudimentary technologies that can hardly serve the need and interest of students and did not meet the objective of the program.
2. Government of Ethiopia has declared that cooperative training as the training mode to be implemented in public TVET colleges and developed policies and supporting guidelines to enhance the process of training. The finding revealed that majority of enterprises were not aware about the guidelines and thus TVET were expected to search for, create awareness, convince and persuade enterprises to collaborate for successful implementation of cooperative training. But, the process has not been easy for TVET colleges because not all enterprises were willing to collaborate, in most part of the research area medium and large scale enterprises were not available and not all stakeholders were committed to make

cooperative training reality. The rapport between TVET colleges and enterprises were complicated and mired with challenges such as problem of communication, commitment, budget and involvement of stakeholders.

3. Cooperative training like other purposeful activities should have to be planned and executed and assessed by all stakeholders accordingly. The study confirmed that only TVET colleges developed the plan. Enterprises were involved only in the process of implementation of cooperative training. Enterprises participated neither in planning nor in students' performance assessment.
4. Availability of appropriate enterprises, their readiness and time spent in enterprises for cooperative training are critical. The finding depicted that majority of enterprises were not appropriate and not in a position to host students for cooperative training as majority of the TVETs in the research are heavily depend of small enterprises. Readiness of enterprises is another important factor that affects effectiveness of cooperative training. The finding revealed that enterprises lack commitment as they receive trainees without any preparation. Concerning time spent in enterprises it has been learned that there were variation not only from place to place but also from programme to programme. In some programmes students were given enough time; while, in other not. Indeed some enterprises were found to be willing to contribute for the success of cooperative training while others were reluctant and lack commitment.
5. Enterprises perception regarding competency of students greatly influence their openness and willingness to foster students learning. The result showed that enterprises were not confident with students' ability to operate machinery or use the equipment properly. Enterprises thought that learners took too much time to develop the desired skills and be acquainted themselves with the organizational culture of enterprises.
6. Experts' commitment for the success of cooperative training is very much important which influence students learning in either of the ways. The study revealed that some experts were found to be highly positive and willing to share their knowledge and experiences while others were not. Those who were not positive tend to consider trainees as their potential competitors upon their graduation. Those experts were working against the very purpose of cooperative training by obstructing the training process. They prevented students from using the machines, raw materials and withholding parts of the process of production as strategies to hinder trainees' learning.

7. The role of enterprises in enhancing quality of training has been obstructed due to number of factors. Among others, issue related with capacity is one. Majority of enterprises were small and failed to meet the minimum requirement to host trainees as they are small enterprises. Cooperative training was not financed either by colleges, enterprises, local government or any other organizations. Students' support system was not up to the level of expectation: most of the time they were not given pocket money, uniform, safety materials and other necessary facilities required for the training. Learners were not given adequate opportunity to develop their skills in that learners need for quality training was not satisfied. Learners were not exposed to varieties activities to contribute to enrich their learning opportunities.
8. When enterprises took part in cooperative training they invest their time, allocate resources which incur additional costs which would have to be compensated. The findings reveal that enterprises did not receive any compensation from local government, colleges or students themselves to offset any cost.

5.4. CONCLUSIONS TO THE STUDY

This section offers conclusions based on the findings of this study.

Technical and Vocational Education and Training (TVET) Colleges were opened and expanded in many areas of the country to accommodate the increasing numbers of students wishing to enrol in technical and vocational education and training. However, there is a mismatch between the number of students who enrol for the training and the space available. Thus, training institutes were forced to receive more students than their accommodation capacity which places much strain on the teaching-learning process and utilisation of resources. TVET colleges require infrastructure and an ongoing supply of materials and resources to provide quality education and training that satisfies the need for skilled manpower. Colleges were running training programmes using very old and outdated training materials, workshops were in a very poor condition with machinery being badly damaged and not being repaired. Budgetary constraints hinder the teaching and learning process and thus the quality of education and training is highly compromised.

The Technical and Vocational Education and Training Proclamation 954/2016 portrayed that the vocational education and training modality would have to be managed using cooperative training as the framework. Cooperative training would be effective if TVETs Colleges,

enterprises and other stakeholders played their part which is conditioned by their level of awareness about cooperative training and the implementation guidelines. The assumption behind the opportunity to work and learn in enterprises was that learners would be familiarised with the work environment, develop a positive attitude and enrich their knowledge and understanding in the area of their specialisation. Cooperative training is thus the correct approach in principle as enterprises could acquaint learners with practical skills. Active involvement of enterprises in cooperative training would help in producing a competent and qualified workforce. Cooperative training, which is also known as dual training, should involve active participation of enterprises and TVET colleges and involves collaboration and commitment. Both need knowledge of the learning outcome of a given trade and they have to work together for its realisation which calls for proper planning, execution of planning and evaluation. Correlation between the learning experiences provided in the college and the practices organised in enterprises as well as the readiness of enterprises to host students for cooperative training is a crucial factor in determining the effectiveness of the cooperative training. However, TVET colleges took the lead in determining where, when and for how long would students stay in enterprises and enterprises were not involved in the preparation of a plan. As a result, the majority of enterprises did not assign a focal person to facilitate cooperative training and coach and monitor, nor were different kinds of tasks prepared to help the process of students learning nor did they become involved in the assessment of the performance of learners which means that learners were not given feedback on their performance. Of concern is that safety issues such as safety rules were not discussed and protective equipment not arranged for students.

As enterprises are the key partners, their status would affect implementation of cooperative training. Enterprises have been categorised as small, medium and large-scale enterprises. In the context of Ethiopia, small enterprises are enterprises having a total capital, excluding building, from Birr 50,001 to Birr 500,000 birr in the case of service sector and Birr 100,000 to Birr 1,500.000 in the case of urban agriculture, artisanal mining and construction sector engages from 6 to 30 workers including the owner, family members and other employees (FDRE, 2016).

All three types of enterprises participated in cooperative training depending on their availability, willingness and location within the reach of TVET colleges. Medium and large-scale enterprises were concentrated in East Showa around the capital city and areas delineated as industrial Zones. Thus, learners who were given the opportunity to work with medium and

large-scale enterprises were exposed to advanced technologies. On the other hand, TVET colleges in West Hararge, Jimma and West Showa relied on small enterprises which utilised basic technologies which might fail to address the learning need of trainees. Small enterprises were characterised by shortage of capital, poor network, and lack of spaces as they were allocated temporary 'business' shelters and utilisation of rudimentary technologies and thus had limited capacity to host trainees for cooperative training. One of the major shorting comings of cooperative training in the region was the failure to consider the local context. Colleges working in different parts have their own peculiarity in that some were situated in big towns where medium and large enterprises were abundantly found, others in small towns where medium and large-scale enterprises were moderately available and some others in semi-rural areas where medium and large-scale enterprises were not available. As a result, some of TVETs were in a position to run the training programme using cooperative training as strategy comfortably while others found it challenging. To mitigate the problem of non-implementation of cooperative training, TVET colleges kept students at college for a longer period of time and tried to provide the necessary skills within the institution even though many did not have the necessary equipment.

The success of cooperative training was varied across the research. The quality of the training was highly compromised for 30:70 ratio was not adhered to as cooperative training and not implemented as per the guideline. In some cases, students were fully incorporated into the work day, being mentored and offered the opportunity to put into practice the theory learnt at college but in contrast, some students were deprived of the opportunity to engage in practical activity. This meant that TVET colleges encountered challenges in the implementation of cooperative training as many enterprises were small and failed to meet minimum requirement to host trainees.

Issues such as student support as a determining factor affected the process of learning. In some cases, experts considered trainees a potential competitor and prevented students using the machines, prohibited the use of raw materials and neglected parts of the process of production as strategies to hinder trainee learning which worked against the very purpose of cooperative training. In addition, enterprises did not have confidence in trainees' skill which could be taken as one of the reasons why enterprises were found to be reluctant in involving students in hands-on practice, especially enterprises who utilised heavy duty machinery or advanced technology. Enterprises were cautious as they would not be compensated if any sort of damage occurred

during the training. Thus, enterprises did not exert the required effort to help trainees to acquire necessary skills.

Finally, budgets were not allocated for cooperative learning both in support of students and their lecturers and enterprises were not compensated for their time and materials.

5.5. RECOMMENDATIONS

Based on the conclusions of the study, the following recommendations are made that might contribute to improve cooperative training at Technical and Vocational Education and Training Colleges in Oromia Regional State, Ethiopia.

Vocational training requires huge practical engagement and hand-on practices as it focuses on inculcation of knowledge, skill and positive attitude upon the learners. In order to meet the desired objectives, the colleges should be equipped with the necessary infrastructure. The finding clearly showed that workshops were very poor because most of the facilities available were installed with the establishment of the workshops and have not been renovated and updated through time. Thus, government should give due attention to revitalise workshops and equip them with necessary facilities so that students will devote their time in practical activities.

Cooperative training is one of the purposeful activities involving mainly enterprises and TVET colleges who should work in collaboration. The degree of collaboration however is conditioned by the degree of communication and commitment for the cause. The study revealed that the rapport between TVET colleges and enterprises were complicated and mired with factors related to communication, commitment, budget and involvement of stakeholders. It has been reported that authorities were not working hard to bring all stakeholders on board. Thus, all stakeholders should come together and identify the major hindering factors affecting meaningful collaboration and work on it so that enterprises and TVET Colleges would have meaningful collaboration to improve students' support system.

As enterprises are the key partners in cooperative training, their status would affect its implementation in either of the ways. The study revealed that enterprises were fairly categorised based on their capital, technology, human resources and work experiences. The capital involved in technology being used, human resources and work experiences and production process determines the status of enterprises which in turn affects the quality of

learning opportunity. TVETs should be aware of such important scenario and investigate how status of enterprises could affect cooperative training and design a strategy to fill the gap.

Ethiopia is one of lesser industrialised countries in the world with the majority of enterprises being small and medium enterprises. Small enterprises were characterised by the shortage of capital, poor network, and lack of spaces as they were allocated temporary 'business' shelters and utilise rudimentary technologies. Thus, it might not be wise to rely on small enterprises for cooperative training and the government should be flexible and consider the context of specific areas. Implementation of cooperative training should be reinforced if and only if the situation in the area allows. In areas where it is challenging to implement cooperative training, TVETs colleges should be permitted to focus on on-campus training and be capacitated to be self-fulfilled training institutions.

Cooperative training requires proper organisation and trainees should have to be treated as individual learners who need different kinds of support. Enterprises involved in cooperative training did not give due attention for its implementation Many enterprises did not assign focal persons or those who were assigned as focal person were not competent enough to guide, coach and monitor trainees. To help enterprises in discharging their responsibility TVET colleges, enterprises and other stakeholders should come together to strengthen their collaboration, share experiences and build the capacity of individuals who involve in cooperative training directly or indirectly.

The study revealed that TVETs colleges working in different parts have their own peculiarity as some were situated in big towns where medium and large enterprises were abundantly found, others in small towns where medium and large-scale enterprises were moderately available and some others in semi-rural areas where medium and large-scale enterprises were not available. Such variation existed also on the magnitude of provision of services. Service sectors in some towns and cities are more developed as compared with others. Still some areas seem give due attention for agriculture as compared to others. Accordingly, it might be helpful to differentiate the area of TVET institutions where they can contribute most: those who can provide training in the area of manufacturing would have to focus on provision of manufacturing, those who can provide training in the area of construction would have to focus on provision of construction and those who can provide training in the area of service sectors would have to focus on provision of service-oriented training.

Both enterprises and colleges would have to have knowledge of learning outcomes of a given trade and become involved in the process of planning, implementation of the learning experiences and assessment. The findings revealed that enterprises play no role in the preparation of the plan and they have very little knowledge of learning outcomes of a given programme. In addition, the study confirmed that enterprises are not involved in the assessment of trainees. Thus, the researcher highly recommends participation all stakeholders in the process of planning, implementation and assessment of the learning experiences so that learners would benefit from cooperative training as intended. Enterprises should have active involvement in the preparation and revision of the curriculum, setting standards of a given trade, minimum learning competency so that they develop sense of belonging and play their parts in the success of the training process.

Cooperative training is a purposeful activity which involves huge resources and enterprises were not compensated for their participation in cooperative training and not given warranty for any sort of damage occurred during the training. Thus, government and other stakeholders should give due attention for cooperative training and allocate a budget to compensate enterprise involvement and government should take accountability for the damage occurred during training.

Cooperative training involves frequent interaction, discussion, reflection and other logistics that require costs. Both students and instructors have to travel from their respective College to the assigned enterprises. Students and instructors would have to have pocket money, transportation allowances, uniform and other safety materials depending on the nature of the enterprises they were sent. Although, all issues discussed above would stipulate huge amount of costs, it has been revealed that budget has not been assigned to manage cooperative training. Indeed, government should solicit and secure budget to cover necessary costs so that TVET college could run the training more effectively.

One of the important challenges identified by the research was the fact that some experts were not happy and not willing to share their knowledge and experiences because they considered trainees as the potential competitors to their future career. This is crucial issue which needs careful consideration and deliberation. Open discussion and reflection forum would have to be created to avoid unnecessary confusion and design strategy to curb the situation which might otherwise affect the whole process negatively.

5.6. RECOMMENDATIONS FOR FURTHER RESEARCH:

The research has found out that each trade has their own unique feature which needs investigations. Authorities should consider conducting research for each trade to develop a deeper understanding and act accordingly. In this case, further research needs to be done to ensure that other aspects and TVET colleges are involved.

5.7. CONTRIBUTION TO KNOWLEDGE

Important lesson that can be learnt from this research is the fact that countries have their own peculiarity and they have to opt to develop curriculum based on their context. In the case of Ethiopia, enterprises were at infant stage and concentrated in some parts of the country although TVET Colleges were distributed all over the country. Significant majority of enterprises in most parts of the country were small and medium. Small enterprises were characterised by the shortage of capital, poor network, and lack of spaces as they were allocated temporary 'business' shelters and utilise rudimentary technologies. In such cases implementation of cooperative training cannot be effective for the desired learning objective can hardly be met. Thus, TVETs colleges planted in the area where there are limited number of enterprises should be permitted to focus on on-campus training and be capacitated to be self-fulfilled training institutions.

5.8. A FINAL WORD

This study was conducted to explore the implementation of cooperative training at TVET colleges in the Oromia Regional State of Ethiopia. The research tried to find out if stakeholders are aware of and abide by the guidelines and policies designed to direct cooperative training: cooperative training required involvement of enterprises and TVET Colleges and learners were required to spend 30% of their time in colleges to attend theoretical aspects and 70% of their time in enterprises to engage in hands on practices, if the training modality contribute the learning need of students so that quality of the training were enhanced.

The assumption behind such kind of training modality was the fact that learners would get opportunity to be equipped with theoretical and practical aspect of a given trade and thus graduates would be knowledgeable, skilful and well informed about the work environment. In addition, such a training modality would offer the opportunity for learners to have access to

modern technology and equipment. Cooperative training has been the preferred form of training modality in Ethiopia because of the fact that TVET colleges were poorly equipped and learners might not get opportunity to practice what they have learnt theoretically if the training was restricted to colleges. Another assumption was that cooperative training would help to ease the financial burden that TVET colleges face because enterprises are expected to share costs of the training.

Enterprises tend to have the capacity to satisfy the training need of learners, and well aware of the advantages of the cooperative training. However, in reality the status of enterprises, the degree of involvement of TVET colleges and enterprises in the training process was not the same and they were not equally accountable.

Thus, the study reveals that enterprises were not at the same position in terms of awareness, resources and commitment. In order for enterprises to fill the gap and contribute to cooperative training, they have to have awareness and be convinced of the importance of their involvement. Small, medium and large enterprises were involved in cooperative training with their capacity determining their involvement in cooperative training.

Taking the above findings and recommendation into account and being aware of the challenges that both TVET colleges and enterprises face, the use of cooperative training could become a win-win opportunity in developing a skilled and competent workforce to assist in the economy of the country.

REFERENCES

Alkire, S. (2002). *Valuing Freedoms. Sen's Capability Approach and Poverty Reduction.* New York: Oxford University Press.

Alkire, S. (2005). "Why Capability Approach?" *Journal of Human Development*, 6(1), (pp 115-133).

Alkire, S. (2008).*Using the capability approach: prospective and evaluative analyses. The Capability Approach: Concepts, Measures and Applications*. Cambridge University Press, Cambridge, (pp 26-50).

Altenburg, T. (2010). *Industrial policy in Ethiopia /* Tilman Altenburg. – Bonn : DIE, 2010. − (Discussion Paper / Deutsches Institut für Entwicklungspolitik ; 2/2010) ISBN 978-3-88985-477-3.

Andang Suhendi and Purwarno, (2018). "Constructivist Learning Theory: The Contribution to Foreign Language Learning and Teaching" in *The 1st Annual International Conference on Language and Literature*, KnE Social Sciences & Humanities, pages 87–95. DOI 10.18502/kss.v3i4.1921.

Anderson, J.R. (1983). A Spreading Activation Theory of Memory. *Journal of Verbal Learning and Verbal Behavior. Department of Psychology*, Carnegie-Mellon University, Pittsburgh, Pennsylvania 15213.

Assefa, B., Tilahun, D., Biru, G., Duguma, M., Mengistu, M & Leka, W. (2018). *Technical and Vocational Education and Training: Ethiopian Education Development Roadmap*. Ministry of Education: Addis Ababa.

Baker, M.A. (2012). Aligning Kolb's Experiential Learning Theory with a Comprehensive Agricultural Education Model. *Journal of Agricultural Education*. 53(4), (pp 1–16).

Baysan, E. (2016). Constructivist Approach. *In Akdemir, A.S. & Akdemir, O. A. (Ed.), Learning and Teaching: Theories, Approaches and Models*. Cyprus International University. Faculty of Education.

Baumrind, D. (1985). Research using intentional deception: Ethical issues revisited. *American Psychologist*,40, (pp 165-174).

Bereiter, C. (2002). Education and mind in the knowledge society. Mahwah, NJ: Lawrence Erlbaum Associates.

Billett, S. (2001). Learning through work: Workplace affordances and individual engagement. *Journal of Workplace Learning* 13 (5), (pp 209-2114).

Boyd, R. D.& Myers, G. J. (1988). Transformative Education. *International Journal of Lifelong Education.* 7(4), (pp 261-284).

Brederck, A. (2018). Equality of What? The Capability Approach and the Right to Education for Persons with Disabilities. *Social Inclusion,* 6(1), (pp 29-39).

Brooks, J. G., & Brooks, M. G. (1993). *In Search of Understanding: The Case for Constructivist Classrooms*. Alexandria, VA: Association for Supervision and Curriculum Development.

Buckler, C., & Creech, H. (2014). *Shaping the future we want: UN Decade of Education for Sustainable Development; final report*. UNESCO.

Buechele, M. and Menkir, T. (2010). *Cooperative & In-Company Training Manual.* Ministry of Education: Engineering Capacity Building Program.

Bulmer, M.: Questionnaires, in Bulmer, M., *Sage Benchmarks in Social Science Research Methods*, (1st Ed).Sage Publications, London, 354, (pp., 2004).

Buzzeo, J and Cifci, M. (2017). Work experience, job shadowing and workplace visits. What works?The Careers & Enterprise Company: www.careersandenterprise.co.uk.

Calleja, C. (2014). Jack Mezirow's Conceptualisation of Adult Transformative Learning: A Review. Accessed: https://doi.org/10.7227/JACE.20.1.8.

Clark, C. M. (1993a). Changing Course: Initiating the Transformational Learning Process. 34th Annual Adult Education Research Conference Proceedings, (pp. 354–361). Pennsylvania State University.

Clark, D. A. (2006). The Capability Approach: Its Development, Critiques and Recent Advances, Global Poverty Research Group. Website: http://www.gprg.org/

Cohen, D. & Crabtree, B. *Qualitative Research Guidelines Project.* July (2006). http://www.qualres.org/HomeSemi-3629.html.

Collin, K. (2009). Connecting Work and Learning in Industrial Design and Development. In Stenstrom, M.L and Tynjälä, P. (Eds). *Towards Integration of Work and Learning* (pp. 63-72). springer.com.

Cranton, P. (2006). *Understanding and Promoting Transformative Learning: A Guide for Educators of Adults*. 2nd ed.; San Francisco: Jossey-Bass

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd Ed.). Thousand Oaks, CA: Sage.

Creswell, J.W. (2012). *Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research* (4th Ed). Upper Saddle River, NJ: Pearson Education.

Creswell, J. W., & Creswell, J. D. (2018). Research design: qualitative, quantitative, and mixed methods approaches. (5th Ed). Los Angeles: SAGE. Chicago.

Central Statistics Authority, (2015). Report on Large and Medium Scale Manufacturing & Electricity Industries Survey: The Federal Republic of Ethiopia. Addis Ababa.

Cohen, L., Manion, L. and Morrison, K. (2007). *Research methods in education* (6th ed.). London and New York: Routledge Falmer.

Dalkilic, M. & Vadeboncoeur, J. A. (2016). Re-framing inclusive education through the capability approach: An elaboration of the model of relational inclusion. Global Education Review, 3(3). 122-137.

DeFalco, A. (2016). Dewey and vocational education: still timely? *The Journal of School and Society*, 3(1), (pp 54–64).

DeJaeghere, J. (2014). A Capability Approach to Entrepreneurship Education: Fostering Recognition and Community Care to Address Inequalities for Marginalized Youth.

Deissinger, T. (2015). The German dual vocational education and training system as 'good practice'? *SAGE:* Vol. 30(5), (pp 557–567).

Down, C. (2006). Lifelong learning, graduate capabilities and workplace learning. in P. Hager and S. Holland (eds.), *Graduate Attributes, Learning and Employability*, 187í205. Springer.

Drèze, J. &Sen, A. K. (2002). *India: Development and Participation*, Oxford University Press, Delhi.

Driscoll, M. (2000). *Psychology of Learning for Instruction*. Boston: Allyn & Bacon.

EEA Research Brief. (2014). *Small and Micro Enterprises (SMEs) Development in Ethiopia: Policies, Performances, Constraints and Prospects*. Ethiopian Economic Association. Accessed: https://media.africaportal.org/documents/Research_Brief_for_SMEs.pdf.

Ellinger, A.D., Hamlin, R.G., Beattie, R.S, Wang, Y. & McVicar, O. (2011). Managerial Coaching as a Workplace Learning Strategy. In R.F. Poell, M. van Woerkom (eds.), *Supporting workplace learning, professional and practice-based learning*. Springer Science+Business Media.

Ellis, A. B. (2007). A taxonomy for categorizing generalizations: Generalizing actions and reflection generalizations. *Journal of the Learning Sciences,* 16(2), (pp 37–41). https://doi.org/10.1080/10508400701193705.

Engeström, Y. (1999). Activity theory and individual and social transformation. In: Miettinen, R and Punamäki, R-L (eds.), *Perspectives on activity theory*. Cambridge: Cambridge University Press. DOI: https://doi.org/10.1017/CBO9780511812774.003.

Eraut, M. (2004a). Transfer of knowledge between education and workplace settings. In H. Rainbird, A.

Eraut M. (2010). Knowledge, Working Practices, and Learning. In: Billett S. (eds) *Learning Through Practice. Professional and Practice-based Learning,* vol 1. Springer, Dordrecht.

European Commission. (2014). Concept note: vocational Education and Training in European Development Cooperation. *DEVCO B3: Employment, Social Inclusion, Migration:* Development and Cooperation-EuropeanAid.

Eya, G.M. (2001). Development and constraints of vocational and technical education in Nigeria: Implication for nation building in *Nigeria Journal of Curriculum and Instruction* Vol. 10 No. 1, (pp 58).

FDRE. (2016). *Technical and Vocational Education and Training Proclamation: Federal Negarit Gazette*. No 78, (pp. 9072). Retrieved: www.ilo.org.

FDRE. (2016). *Technical and Vocational Education and Training Proclamation No. 954/2016:* Federal Negarit Gazette. No 78, (pp. 9072). Retrieved: www.ilo.org.

Fernando, S. & Marikar, F. (2017). Constructivist Teaching/Learning Theory and Participatory Teaching Methods. *Journal Curriculum Teaching,* 6(1), (pp 110-122). http://jct.sciedupress.com.

Fien, J. & MacLean, R. (2009). Work, Learning and Sustainable Development Opportunities and Challenges (Editor, JOHN FIEN).

Fisher, B., Geller, K.D. & Schapiro, S.A. (2009). INNOVATION IN TRANSFORMATIVE LEARNING: space, culture, & the Arts. JSTOR. 341, (pp 1-19). https://about.jstor.org/terms.

Freire, P. (1974). *Education: The Practice of Freedom*, London, Writers and Readers Cooperative.

Fürstenau, B., Pilz, M., & Gonon, P. (2014). The Dual System of Vocational Education and Training in Germany – What Can Be Learnt About Education for (Other) Professions. In: Billett, S., Harteis, C., & Gruber, H. (eds.): *International Handbook of Research in Professional and Practice-based Learning.* Dordrecht et al.: Springer, (pp 427-460).

Fuller, A, & Unwin, L. (2003). 'Learning as apprentices in the contemporary UK workplace: creating and managing expansive and restrictive participation'. *Journal of Education and Work*, 16(4), (pp 406–427).

Geda, Tolla B. (2016). The Implementation of Cooperative Training in Technical andVocational Education and Training Colleges of Oromia. *Education Journal*, 5(4), (pp 43-48). doi: 10.11648/j.edu.20160504.11.

Gessler, M. & Howe, F. (2015). From the Reality of Work to Grounded Work-Based Learning in German Vocational Education and Training: Background, Concept and Tools. *International Journal for Research in Vocational Education and Training*, 2(3), (pp 214-238).

Giacumo, L.A.; Villachica, S.W.; and Breman, J. (2018). "Workplace Learning, Big Data, and Organizational Readiness: Where to Start?". *Digital Workplace Learning: Bridging Formal and Informal Learning with Digital Technologies,* 107-127. https://doi.org/10.1007/978-3-319-46215-8_7.

Greinert, W. D. (1995). Das deutsche System der Berufsausbildung. Geschichte, Organisation, Perspektiven. 2. Auflage. Baden-Baden: Nomos.

Guba, E. G., & Lincoln, Y. S. (2005). Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd Ed.). (pp 191–215). Thousand Oaks, CA: Sage.

Hager, P. (2009). *Recovering Informal Learning: Wisdom, Judgement and Community.* University of Technology. Australia: Sydney. Springer.link.com.

Haradhan, M. (2017). Two Criteria for Good Measurements in Research: Validity and Reliability. MPRA Paper No. 83458, posted 24 Dec 2017 08:48 UTC. Online at https://mpra.ub.uni-muenchen.de/83458/.

Herkner, V. (2013). Grundzüge der Genese und Entwicklung einer korporatistischen Ordnung von Ausbildungsberufen. Berufsbildung in Wissenschaft und Praxis, 42 (3), (pp 16–19).

Hoggan, C. (2018). The Current State of Transformative Learning Theory: A Metatheory. *Phronesis*, 7(3), (pp 18–25). https://doi.org/10.7202/1054405ar.

Idialu, E.E. (2007). Quality Assurance in the Teaching and Examination of Vocational and Technical Education in Nigeria. *College Students Journal. http:findarticles.com/p.articles.*

ILO. (2019). *A Framework for Quality Apprenticeship.* International Labor Office: Geneva. Retrieved: www.ilo.org.

Imel, S. (1998). *Using adult learning principles in adult basic and literacy education, Education Practice Application Brief.* Office of Educational Research & Improvement.

IMF. (2022). Ethiopia Economy. https://countrymeters.info/en/Ethiopia/economy.

_____ IMF Staff Visit Discusses Reform Plans and Economic Developments in Ethiopia. Press Release No. 22/216.

Johnson, B.R. & Christensen, L. (2014). *Educational Research: Quantitative, Qualitative and Mixed Research* (5th Ed.). USA. SAGE Publication, Inc.

Johnson, R.B. & Onwuegbuzie, A.J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher,* 33, (pp 14-26). http://dx.doi.org/ 10.3102/0013189X033007014.

Jonassen, D. H. (1994). Thinking technology: Toward a constructivist design model. *Educational Technology,* 34 (4), (pp 34-37).

Kawulich, B. B. (2005). Participant Observation as a Data Collection Method [81 paragraphs]. Forum: Qualitative Sozialforschung/Forum: Qualitative Social Research [On-line Journal], 6(2), Art. 43. Available at: http://www.qualitative-research.net/fqs-texte/2-05/05-2-43- e.htm.

Kell, A. (1995). Organisation, Recht und Finanzierung der Berufsbildung. In R. Arnold & A. Lipsmeier (Eds.), *Handbuch der Berufsbildung* (pp. 369–397). Opladen: Leske + Budrich.

Kennedy, O. O. (2011). Philosophical and Sociological Overview of Vocational Technical Education in Nigeria. *International Journal of Academic Research in Business& Social Sciences,*1(2), (pp 118-126).

Kindornay, S., & Twigg, S. (2015). Establishing a workable follow-up and review process for the Sustainable Development Goals. *Overseas Development Institute.*

Kivunja, C. & Kuyini, A.B. (2017). Understanding and Applying Research Paradigms in Educational Contexts. *International Journal of Higher Education*, 6(5). http://ijhe.sciedupress.com.

Kitchenham, A. (2012). Jack Mezirow on Transformative Learning. *Encyclopedia of the Science of Learning.* Springer Science. DOI 10.1007/978-1-4419-1428-6.

Knapp, D., & Benton, G. M. (2006). Episodic and semantic memories of a residential environmental education program. *Environmental Education Research,* 12(2), (pp 165–177). doi: 10.1080/13504620600688906.

Kolb, D.A. (1984). *Experiential learning: experience as the source of learning and development*, Prentice-Hall, New Jersey.

Kolb, A. Y., & Kolb, D. A. (2005b). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education,* 4, (pp 193-212).

Kolb, A.Y. & Kolb, D.A. (2009). Experiential Learning Theory: A Dynamic, Holistic Approach to Management Learning, Education and Development. In: Armstrong, S.J. and Fukami, C.V., Eds., *The SAGE Handbook of Management Learning, Education and Development,* SAGE Publications Ltd., Thousand Oaks, (pp 42-68). https://doi.org/10.4135/9780857021038.n3.

Kolb, A. Y. & Kolb, D.A. (2011). *Experiential Learning Theory: A Dynamic, Holistic Approach to Management Learning, Education and Development.5210-Armstrong-Ch03.tex,* (pp 42-68).

Kothari, C.R. (2004). *Research Methodology: Methods and Techniques* (2nd Ed). India: New Age International Publishers.

Kothari, C.R. (2014). *Research Methodology: Methods and Techniques* (5th Ed). India: New AgeInternational Publishers.

Kotsikis, V. (2007). *Educational Administration and Policy.* Athens: Ellin.

Kroths, M. & Cranton, P. (2014). Stories of Transformative Learning: *International Issues of Adult Education.* Sense Publishers: Rotterdam. https://www.sensepublishers.com/.

Lauglo and Lillis (1988). *Vocationalizing Education. An International Perspective* edited by Ruby Hope Kingston: University of the West Indies,

Lave. J., & Wenger, E. (1991). Situated learning: Legitimate peripheral participation. New York and Cambridge, UK: Cambridge University Press.

Lavikka, R. (2004). Fulfilment or slavery? The changing sense of self at work. In T. Heiskanen & J. Hearn (Eds.), *Information society and the workplace* (pp. 143–177). London: Routledge.

Leavy, P. (2017). *Research design: quantitative, qualitative, mixed methods, arts-based and community- based participatory research approaches.* New York: The Guilford Press.

Learn4Work. (2012). Technical and Vocational Education and Training Mapping in Ethiopia Final Report. The Edukans Foundation. Addis Ababa. https://edukans.org/wp-content/uploads/2018/04/Mapping-Report-Ethiopia-2012.pdf.

Mansell, J. (2011). Structured observational research in services for people with learning disabilities:Improving the evidence base for adult social care practice. http://www.nihr.ac.uk/.

Marhuenda, F. (2009). Work Integration in Social Enterprises: Employment for the Sake of Learning. In Stenstrom, M.L and Tynjälä, P. (Eds),*Towards Integration of Work and Learning* (pp. 63-72). Springer.

McCarthy, M. (2016). Experiential Learning Theory: From Theory To Practice. *Journal of Business and Economic Research*, 14(3). https://doi.org/ 10.19030/jber.v14i3.9749.

McIntosh, M.J., & Morse, J.M. (2015). Situating and constructing diversity in semi-structured interviews. *Global Qualitative Nursing Research, 2,* 1–12.https://doi.org/10.1177 /2333393615597674.

Meheret, T. (2014). The Concept and Characteristics of Public Enterprises in Ethiopia: An Overview. *AJOL.* http://dx.doi.org/10.4314/mlr.v8i2.3.

Meixner, C & Hathcoat, J.D. (2018). *The Nature of Mixed Methods Research. Handbook of Research Methods in Health Social Sciences.* Singapore: Springer.

Mezirow, J. (1991). *Transformative dimensions of adult learning.* San Francisco: Jossey-Bass.

Mezirow, J. (2000). *Learning as transformation: Critical perspectives on a theory in progress.* San Francisco: Jossey-Bass Inc.

Mezirow, J. (2012). Learning to think like an adult: Core concepts of transformation theory. In Taylor, E. W., Cranton, P., &Associates, The Handbook of Transformative Learning: Theory, Research, and Practice (pp. 73–95). San Francisco, CA: Jossey-Bass.

Ministry of Education (MoE). (1994). Education and training policy. Federal Democratic Republic of Ethiopia. cmpethiopia.org/media/education_and_training_policy_ ethiopia_1994.

Ministry of Education (MOE). (2008). National Technical and Vocational Training (TVET) Strategy. Addis Ababa. info.moe.gov.et/tv/engstr.pdf.

Mortaki, S. (2012). The Contribution of Vocational Education and Training in the Preservation and Diffusion of Cultural Heritage in Greece: The Case of the Specialty "Guardian of Museums and Archaeological Sites". International Journal of Humanities and Social Science. Vol. 2 No. 2. www.ijhssnet.com.

Mosisa, B. (2016). The Influence of Technical and Vocational Education and Training on Entrepreneurial and Job Opportunities in Asella Town. *Global Educational Research Journal:* 4(1), (pp 424-453), May, 2016.

Mumford, M.D. (2003). Where have we been, where are we going? Taking stock in creativity research. Creativity Research Journal, 15(2-3), (pp 107-120).

National Planning Commission. (2016). *Growth and Transformation Plan* II (GTP II) (2015/16-2019/20): Federal Democratic Republic of Ethiopia. Addis Ababa.

Newman, I, & Benz, C.R. (1998). *Qualitative-quantitative research methodology: Exploring the interactive continuum.* Carbondale: University of Illinois Press.

Noah HJ and Eckstein MA. (1988). Business and industry involvement with education in Britain, France and Germany. In: Lauglo J and Lillis K (eds) *Vocationalising Education: An International Perspective.* Oxford: Pergamon Press, (pp 45–68).

Nussbaum, M.C. (2011). *Creating Capabilities: The Human Development Approach. Harvard* University Press. England.

Odu, K. O. (2007). Causes and Control of Wastage in Vocational/Technical Institutions. *Journal of Educational Research and Policy*, 2(4), (pp 35-40).

Okorie, J. U. (2001). *Vocational Industrial Education League of Researchers in Nigeria,* Bauchi, Nigeria.

Okoro, O. M. (1999). *Principles and Methods of Vocational and teachers education.* Nsukka: University Trust Publishers.

Okoye, K.R.E. & Chijioke, O.P. (2013). Technical and Vocational Education and Training (TVET) In Nigeria and Energy Development, Marketing and National Transformation. *Journal of Education and Practice.* 4.

Olusegun, D.S. (2015). Constructivism Learning Theory: A Paradigm for Teaching and Learning. *Journal of Research and Method in Education*, 6(1), (pp 66-70). www.iosrjournals.org.

Onwuegbuzie, J. and Johnson R. (2006). The Validity Issue in Mixed Research. *Research in the Schools,* 13(1), (pp 48-63).

Onwuegbuzie, A. J., & Leech, N. L. (2004). Enhancing the interpretation of "significant" findings: The role of mixed methods research. *The Qualitative Report,* 9, (pp 770- 792). Retrieved from http://www.nova.edu/ssss/QR/QR9-4/ onwuegbuzie.pdf.

Otchia, C. and Yamada, S. (2019). "Interactions between vocational and attitudinal skills in labour market outcomes: findings from the skills' assessment of garment factory workers in Ethiopia", *Journal of Vocational Education and Training*, pp. 1-23, doi: 10.1080/13636820.2019.1652675.

Pahl, J.-P. (2012). Berufsbildung und Berufsbildungssystem. Bielefeld: W. Bertelsmann Verlag.

Phillips, M. (2016). *Digital Technology, Schools and Teachers' Workplace Learning: Policy, Practice and Identity.* Monash University: Clayton, Victoria, Australia. www.daneshnamehicsa.ir/userfiles/files/1/17-%20Digital%20Technology,%20Schools%20and%.

Rabionet, S.E. (2011). How I learned to design and conduct semi-structured interviews: an ongoing and continuous journey. *The Qualitative Report* 16(2), 563-566 http://www.nova.edu/ssss/QR/QR16-2/rabionet.pdf.

Rahman, M.M. &Rahian, A. (2013). Eradicating Prime Problems of TVET for Ensuring Worth Human Resources in Bangladesh. *IJESRT.* 2(10).

Reinisch, H., & Götzl, M. (2013). Berufsgruppenbildung im Bereich kaufmännischbetriebswirtschaftlicher Berufe aus historischer Sicht. Berufsbildung in Wissenschaft und Praxis, 42 (3), (pp 20–23).

Robeyns, I. (2006). Three Models of Education: Rights, Capabilities and Human Capital. Theory and Research in Education, 4, (pp 69-84).

Schmuck, R. A. (1997). *Practical action research for change*. Arlington Heights, IL: IRI/Skylight Training and Publishing. Scott, 2016.

Sen, A. (1997). Inequality, unemployment and contemporary Europe. *International Labour Review*, 136 (1997), No. 2 (Summer).

Sen, A. (1999). *Development as freedom.* Oxford: Oxford University Press.

Shaorshadze, & Krishnan, P., I. (2013). Technical and vocational Education and Training in Ethiopia. *Paper for the International Growth Centre–Ethiopia Country Programme.*

Shor, I. (1993). Education is politics: Paolo Freire's critical pedagogy. in MacLaren, P., Leonard, P. (eds), Paolo Freire: *A Critical Encounter* (pp 23–35). New York, NY: Routledge.

Snedden, D. (1977). Fundamental distinctions between liberal and vocational education. *Curriculum Inquiry,* 7(1), 41–52. https://doi.org/10.1080/03626784.1977.11076203.

Stenström, M.L. (2006). Polytechnic graduates' working-life skills and expertise. In P. Tynjälä, J. Välimaa, & G. Boulton-Lewis (Eds.), *Higher education and working life: Collaborations, confrontations and challenges* (pp. 89-102). Amsterdam: Elevier.

Taherdoost, H. (2016). Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. International Journal of Academic Research in Management. Vol. 5, No. 3, 2016, (pp. 28-36), ISSN: 2296-1747. www.elvedit.com.

Taylor, K. B., & Elias, D. (2012). Transformative learning: A developmental perspective. In E. W. Taylor & P. Cranton (Eds.), *The handbook of transformative learning: Theory, research, and practice* (pp. 147-161). San Francisco, CA: Jossey-Bass.

Tirussew Teferra, Amare Asgedom, Jeilu Oumer, Tassew W/hanna, Aklilu Dalelo & Berhannu Assefa. (2018). *Ethiopian Education Development Roadmap (2018-30): An integrated Executive Summary*. Ministry of Education. Addis Ababa.

Tynjälä P. (2009). Connectivity and Transformation in Work-Related Learning – Theoretical Foundations. In: Stenström ML., Tynjälä P. (eds) Towards Integration of Work and Learning. Springer, Dordrecht.

Tynjala, Slotte, Nieminen, Lonka, & Olkinuora, (2006). Advances in Learning and Instructions, Higher Education and Working Life: Collaborations, Confrontations and Challenges. Publisher: Elsevier Ltd. Editors: P. Tynjälä, J Välimaa and, G. Boulton-Lewis.

Udoye, N. T. (2005). EPCAS model: What is it? Unpublished Paper Presented at the School of Education Annual Symposium. USA: Loyola University Chicago.

Ukachi and Ejiko, (2018). Importance Of Vocational Technical Education In Present Day Nigeria Economy". *Global Scientific Journal,* 6(8), (pp. 530-534).

UNESCO and ILO (2002). *Technical and vocational education and training for the twenty-first century. UNESCO and ILO recommendations,* UNESCO, Paris; ILO, Geneva.

UNESCO and ILO. (2003). *The New ILO Recommendation 195 Human resources development: education, training and lifelong learning*. Accessed: www.oitcinterfor.org/sites/default/files/file_evento/recom195_en.pdf.

UNESCO. (2006). Orienting Technical and Vocational Education and Training for Sustainable Development: A Discussion Paper. UNESCO-UNEVOC International Center. Germany.

UNESCO, FAO & ILO. (2009). Training and employment opportunities to address poverty among rural youth: a synthesis report.

UNESCO. (2002). Technical and vocational education and training for the twenty-first century: UNESCO and ILO recommendations.

UNESCO. (2006). *Orienting Technical and Vocational Education and Training for Sustainable Development: A Discussion Paper*. UNESCO-UNEVOC International Center. Germany.

Unterhalter, E. (2003). *Education, capabilities and social justice.* Paper commissioned for the EFA Global.

Vietnam. (2006). TVET for sustainable development- opportunities and challenges *–An International Experts' Meeting organised by the UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training (TVET), Bonn, Germany.*

Wahle, M. (2007). *Im Rückspiegel das Kaiserreich. Modernisierungsstrategien und Berufsausbildung*. Frankfurt: G.A.F.B. Verlag.

Walker, M. & Unterhalter, E. (2007). The Capability Approach: Its Potential for Work in Education: in Walker, M. and Elaine Unterhalter, A.*Amartya Sen's Capability Approach and Social Justice in Education.* Palgrave Macmillan, New-York.

Wang, M. (2018). *Workplace Learning and Theoretical Fundamentals. In: E-Learning in the Workplace. Explorations in the Learning Sciences, Instructional Systems and Performance Technologies*. Springer, Cham.

Weldeslassie, H., Vermaack, C., Kristos, K., Minwuyelet, L., Tsegay, M., Tekola, N.& Gidey, Y. (2015). Exploring the Status, Prospects and Contributions of Micro, Small and Medium Enterprises (MSMEs) in Ethiopia. 10.13140/RG.2.2.21111.88482.

Wenger, E. (1998). *Communities of practice and social learning systems: the career of a concept.* New York: Cambridge University Press.

Willis, P. McKenzie, S. & Harris, R. (2009). *Rethinking Work and Learning: Adult and Vocational Education for Social Sustainability*: UNEVOC: Springer.

Winer, R. K. (2000). Rung by up the health career ladder. *American Vocational Journal,* 48 (7) (pp 18-27).

World Bank. (2009). *Towards the Competitive Frontier: Strategies for Improving Ethiopia's Investment Climate.* Report No. 48472-ET. Financial and Private Sector Development Unit, Africa Region, World Bank, Washington DC.

United Nations. (2022). Ethiopia Population: Department of Economic and Social Affairs. Population Division. https://countrymeters.info/en/Ethiopia.

Zohrabi, M. (2013). Mixed Method Research: Instruments, Validity, Reliability and Reporting Findings. ISSN 1799-2591. Theory and Practice in Language Studies, 3(2), (pp. 254-262).

APPENDICES

Appendix A: Ethical Clearance

UNISA university of south africa

UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2020/05/13

Ref: **2020/05/13/57653739/03/AM**
Name: Mr KS GUTA
Student No.: 57653739

Dear Mr KS GUTA

Decision: Ethics Approval from 2020/05/13 to 2025/05/13

Researcher(s): Name: Mr KS GUTA
E-mail address: 57653739@mylife.unisa.ac.za
Telephone: +251911905891

Supervisor(s): Name: Prof PR Machaisa
E-mail address: machapr@unisa.ac.za
Telephone: 012 429 4560

Title of research:

Exploring the Implementation of Cooperative Training at Technical and Vocational Education and Training Colleges in Oromia Regional State, Ethiopia

Qualification: PhD Education Management

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2020/05/13 to 2025/05/13.

*The **low risk** application was reviewed by the Ethics Review Committee on 2020/05/13 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.*

The proposed research may now commence with the provisions that:

1. The researcher will ensure that the research project adheres to the relevant guidelines set out in the Unisa Covid-19 position statement on research ethics attached.
2. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Appendix B: Request for Permission to Conduct Research

Exploring the Implementation ofCooperative Training at Technical and Vocational Education and Training Colleges in Oromia Regional State, Ethiopia

Date _____

To: Oromia Technical and Vocational Education and Training Agency
Addis Ababa/Finfinne

I, Kebede Soressa Guta, am PhD student in the University of South Africa(UNISA) under the supervision of Professor PR Machaisa in the College of Education.

The purpose of the research is to explore the role of TVET-enterprise partnership in enhancing quality training in TVET colleges. To make the study meaningful and impact making it is important to get first-hand information from stakeholders. The main stakeholders the researcher is planning to consider are TVET colleges V/deans, enterprises focal persons, TVET College teachers and students. The researcher wants to collect information using interview, questionnaire and observation. Interview will be employed to get information from the V/deans, enterprises focal persons and students. Questionnaire will be used to get information from students and teachers. Observation on the other hand, will be employed look at how students are learning in the enterprises.

Thus, I kindly request your office to give me permission to carry out the research in the TVET colleges under your jurisdiction and partner enterprisesyou are working with.

Thank you very much in advance for your collaboration,

Kebede Soressa Guta

Appendix C: Observation check list

1. See if attendance sheet is prepared for trainees in the organisation.
2. Observe if the work environment is friendly.
3. Check if there is proper mechanism of feedback and debriefings for the apprentices.
4. Find out if traineesare allowed to be engaged in hand-on practices.
5. Observe if the trainees are on task throughout the day.
6. Look at the level of motivation of the trainees.
7. Check if enterprises have positive attitude towards trainees.
8. Find out if there is good rapport between trainees and enterprises.

Appendix D: Questionnaire for students

Dear Respondent,

My name is Kebede Soressa Guta and I am, currently, a PhD student at UNISA studying under the supervision of Prof. PR MACHAISA. The purpose of this research is to explore the Implementation of Cooperative Training at Technical and Vocational Education and Training Colleges in Oromia Regional State, Ethiopia

Your participation in this research is highly appreciable. Participation is purely voluntary and you can withdraw at anytime. You may also choose not to answer any questions you are not comfortable with. The information provided in the questionnaire will be highly confidential and anonymity is fully granted.

You may find the study useful in improving the linkage between TVET and enterprises so as to enhance the quality of the training. You will also have the opportunity to contribute your perspective to the discourse in the area of linkage. The results of the study will be available to TVET colleges, enterprises and other stakeholders for future enhancement of the program. The result will be published in a PhD thesis, articles and may be presented in public forums. I hope that you will be able to take time in completing the questionnaire which might not take more than 30 minutes of your time.

Thank you very much in advance for your time and willingness to participate in this research project.

Yours sincerely,

Kebede Soressa Guta

Note: There is no right and wrong for the following questions: just choose from the given alternative that best describe your views.

Key for the answer:

1-strongly disagree; 2-disagree; 3. Not sure; 4-agree 5-strongly agree

No.	Questions	5	4	3	2	1
1	Enterprises assign focal person who facilitate the apprenticeship					
2	Focal persons assigned by enterprises are highly competent					
3	Enterprises are well organised and treat apprentices as individual					
4	Enterprises have confidence in trainees skill					
5	Trainees are allowed to be engaged in hand-on practices					
6	Trainees are not allowed to use the resources as much as required					
7	The place of training is appropriate					
8	There is mismatch between number of trainees and space in enterprises					
9	There is established support system in the enterprises					
10	There is strong correlation between what I have learned in TVET and the apprenticeship in the enterprises					
11	Enterprises have prepared varieties of tasks in advance					
12	Enterprises evaluate the performance of trainees objectively					
13	Assessment done by the enterprises is outcome based					
14	Trainees do not learn a lot because the skills provided by enterprises are too easy					
15	Skills provided by enterprises are interesting					
16	Skills provided by enterprises are challenging					
17	Trainees cannot comprehend the skills provided by enterprises because skills are too difficult					
18	Apprenticeship have high contribution to enhance knowledge and skill of the trainees					
19	Apprenticeship helps a lot do to boost trainees confidence					
20	Enterprises are well equipped with training materials					
21	Enterprises uses advanced technology as compared with facilities in TVET colleges					
22	Time allotted for the apprenticeship is appropriate					
23	Length of the assignment in enterprises fits with the expected learning outcome					
24	Enterprises believe that students/apprentices have the capacity to operate machines/materials in the organisation					
25	Apprenticeship gives opportunity to develop the skill of trainees					
26	Cooperative training contribute in producing competent workforce					
27	Cooperative training contribute to enhance quality of the training					
28	Apprenticeship is not productive					
29	Apprenticeship is relevant in familiarising self with the world of work					
30	Enterprises check out if trainees meet the minimum standard					

Appendix E: Questionnaire for instructors

Dear Respondent,

My name is Kebede Soressa Guta and I am, currently, a PhD student at UNISA studying under the supervision of Prof. PR MACHAISA. The purpose of this research is to explore Implementation of Cooperative Training at Technical and Vocational Education and Training Colleges in Oromia Regional State, Ethiopia.

Your participation in this research is highly appreciable. Participation is purely voluntary and you can withdraw at anytime. You may also choose not to answer any questions you are not comfortable with. The information provided in the questionnaire will be highly confidential and anonymity is fully granted.

You may find the study useful in improving the linkage between TVET and enterprises so as to enhance the quality of the training. You will also have the opportunity to contribute your perspective to the discourse in the area of linkage. The results of the study will be available to TVET colleges, enterprises and other stakeholders for enhancement of the program in the future. The result will be published in a PhD thesis, articles and may be presented in public forums. I hope that you will be able to take time in completing the questionnaire which might not take more than 45 minutes of your time.

Thank you for your time and willingness to participate in this research project.

Yours sincerely,

Kebede Soressa Guta

General Information

1. Name of the College: _____
2. Department: _____
3. Gender: Male ☐ Female ☐
4. Educational Qualification
   Diploma ☐ Degree ☐ MA/MSc ☐ Other (specify) _____
5. Area of specialisation _____
6. Year of service in the College _____

Note: There is no right and wrong for the following questions: just choose from the given alternative that best describe your views.

Key for the answer:

1-strongly disagree; 2-disagree; 3. Not sure 4-agree 5-strongly agree

No.	Questions	5	4	3	2	1
1	Enterprises assign focal person who facilitate the apprenticeship					
2	Focal persons assigned by enterprises are highly competent					
3	Enterprises are well organised and treat apprentices as individual					
4	Enterprises have confidence in trainees skill					
5	Trainees are allowed to be engaged in hand-on practices					
6	Trainees are not allowed to use the resources as much as required					
7	The place of training is appropriate					
8	There is mismatch between number of trainees and space in enterprises					
9	There is established support system in the enterprises					
10	There is strong correlation between what is learned in TVET and the apprenticeship in the enterprises					
11	Enterprises have prepared varieties of tasks in advance					
12	Enterprises evaluate the performance of trainees objectively					
13	Assessment done by the enterprises is outcome based					
14	Trainees do not learn a lot because the skills provided by enterprises are too easy					
15	Skills provided by enterprises are interesting					
16	Skills provided by enterprises are challenging					
17	Trainees cannot comprehend the skills provided by enterprises because skills are too difficult					
18	Apprenticeship helps a lot to boost trainees confidence					
19	Enterprises are well equipped with training materials					
20	Enterprises uses advanced technology as compared with facilities in TVET colleges					
21	Time allotted for the apprenticeship is appropriate					
22	Length of the assignment in enterprises fits with the expected learning outcome					
23	Apprenticeship gives opportunity to develop the skill of trainees					

24	Cooperative training contribute in producing competent workforce					
25	Cooperative training contribute to enhance quality of the training					
26	Apprenticeship is not productive					
27	Apprenticeship is relevant in familiarising self with the world of work					
28	There is established framework to forge TVET and enterprises partnership					
29	Enterprises are incentivised for their participation in cooperative training					
30	Enterprises are compensated for their participation in cooperative training.					
31	There is established system for compensation whenever damage is occurred					
32	Enterprises check out if trainees meet the minimum standard					
33	TVET involves enterprises in planning learning assessment					
34	Enterprises are aware of learning outcome of a given trade					
35	Enterprises are aware of occupational standard					

Appendix F: Interview guide for Vocational Guidance and Counselling Office Head

General information

- Title of the interviewee
- Job position
- Service year with the current position:
- Qualification
- Sex

1. Are there policies and guidelines that contribute in fostering College – enterprises partnership? Are all stakeholders aware about it?
2. How do you view the level of commitment of enterprises for the success of cooperative training?
3. What benefits do enterprises are getting for hosting TVET trainees in their organisations?
4. Do you think that enterprises are confident in students' competency?
5. What issues/concerns are raised by students in the implementation of cooperative training?
6. Is there mismatch between the number of trainees and enterprises? What strategies are you using so far to cope up with such kind of problem?
7. Do enterprises and TVET develop action plan together?
8. How do you explain the established communication system between TVET colleges and enterprises in relation with the training program?
9. How do you describe the implementation of cooperative training program in your locality? What problems does it have? What can you suggest to mitigate the problems?
10. What do you think should be done to improve efficiency of cooperative training?

Appendix G: Interview guide for TVET-enterprise linkage focal person

General information

- Title of the interviewee
- Job position
- Service year with the current position:
- Qualification
- Sex

1. Are there policies and guidelines that contribute in fostering College – enterprises partnership? Are all stakeholders aware about it?
2. What benefits do enterprises are getting for hosting TVET trainees in their organisations?
3. Are you confident in students' competency?
4. Is there mismatch between the number of trainees and enterprises? What strategies are you using so far to cope up with such kind of problem?
5. Do enterprises and TVET develop action plan together?
6. How do you explain the established communication system between TVET colleges and enterprises in relation with the training program?
7. How do you describe the implementation of cooperative training program in your locality? What problems does it have? What do you suggest to mitigate the problems?
8. What do you think should be done to improve efficiency of cooperative training?
9. What issues/concerns do you havein the implementation of cooperative training?

Appendix I: Group interview guide for students

1. What benefits did you get from apprenticeship program?
2. How did you find the coordination of TVET and enterprises to enhance effectiveness of cooperative training?
3. How do you view the level of coordination of enterprises when hosting trainees?
4. How do you view the relationship between the objectives of cooperative training and the actual practices taking place in enterprises?
5. Will you tell me major benefits you get from learning in enterprises?
6. Does cooperative training contribute in enhancing your motivation? Please explain.
7. Will you please discuss what you like and dislike about cooperative training?
8. What do you suggest to improve the practice of cooperative training?

Appendix J: Description of data collected from students (Frequency table)

Number of students participated from each center

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	17	11.3	11.3	11.3
	2	20	13.3	13.3	24.7
	3	17	11.3	11.3	36.0
	4	19	12.7	12.7	48.7
	5	19	12.7	12.7	61.3
	6	19	12.7	12.7	74.0
	7	20	13.3	13.3	87.3
	8	19	12.7	12.7	100.0
	Total	150	100.0	100.0	

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	99	66.0	66.0	66.0
	2	51	34.0	34.0	100.0
	Total	150	100.0	100.0	

Enterprises assign focal person who facilitate the apprenticeship

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	13	8.7	8.7	8.7
	2.0	5	3.3	3.3	12.0
	3.0	26	17.3	17.3	29.3
	4.0	72	48.0	48.0	77.3
	5.0	34	22.7	22.7	100.0
	Total	150	100.0	100.0	

Focal persons assigned by enterprises are highly competent

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	1.0	13	8.7	8.7	8.7
	2.0	52	34.7	34.7	43.3
	3.0	54	36.0	36.0	79.3
	4.0	29	19.3	19.3	98.7
	5.0	2	1.3	1.3	100.0
	Total	150	100.0	100.0	

Enterprises are well organised and treat apprentices as individual

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	18	12.0	12.0	12.0
	2.0	60	40.0	40.0	52.0
	3.0	55	36.7	36.7	88.7
	4.0	16	10.7	10.7	99.3
	5.0	1	.7	.7	100.0
	Total	150	100.0	100.0	

Enterprises have confidence in trainees skill

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	29	19.3	19.3	19.3
	2.0	39	26.0	26.0	45.3
	3.0	58	38.7	38.7	84.0
	4.0	23	15.3	15.3	99.3
	5.0	1	.7	.7	100.0
	Total	150	100.0	100.0	

Trainees are allowed to be engaged in hand-on practices

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	34	22.7	22.7	22.7
	2.0	61	40.7	40.7	63.3

	3.0	26	17.3	17.3	80.7
	4.0	22	14.7	14.7	95.3
	5.0	7	4.7	4.7	100.0
	Total	150	100.0	100.0	

Trainees are not allowed to use the resources in the enterprises as much as required

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	4	2.7	2.7	2.7
	2.0	28	18.7	18.7	21.3
	3.0	21	14.0	14.0	35.3
	4.0	67	44.7	44.7	80.0
	5.0	30	20.0	20.0	100.0
	Total	150	100.0	100.0	

Enterprises have appropriate place for training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	33	22.0	22.0	22.0
	2.0	82	54.7	54.7	76.7
	3.0	28	18.7	18.7	95.3
	4.0	7	4.7	4.7	100.0
	Total	150	100.0	100.0	

There is mismatch between number of trainees and training space available in enterprises

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	2	1.3	1.3	1.3
	2.0	20	13.3	13.3	14.7
	3.0	46	30.7	30.7	45.3

	4.0	44	29.3	29.3	74.7
	5.0	38	25.3	25.3	100.0
	Total	150	100.0	100.0	

There is established support system in the enterprises

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	27	18.0	18.0	18.0
	2.0	56	37.3	37.3	55.3
	3.0	55	36.7	36.7	92.0
	4.0	12	8.0	8.0	100.0
	Total	150	100.0	100.0	

There is strong correlation between what I have learned in TVET and the apprenticeship in the enterprises

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	22	14.7	14.7	14.7
	2.0	26	17.3	17.3	32.0
	3.0	41	27.3	27.3	59.3
	4.0	35	23.3	23.3	82.7
	5.0	26	17.3	17.3	100.0
	Total	150	100.0	100.0	

Enterprises prepare different kinds of learning experiences that helps to enhance trainees' skill in advance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	32	21.3	21.3	21.3
	2.0	57	38.0	38.0	59.3
	3.0	40	26.7	26.7	86.0
	4.0	21	14.0	14.0	100.0
	Total	150	100.0	100.0	

Enterprises evaluate performance of trainees objectively

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	61	40.7	40.7	40.7
	2.0	60	40.0	40.0	80.7
	3.0	23	15.3	15.3	96.0
	4.0	6	4.0	4.0	100.0
	Total	150	100.0	100.0	

Assessment done by the enterprises is performance based

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	61	40.7	40.7	40.7
	2.0	64	42.7	42.7	83.3
	3.0	25	16.7	16.7	100.0
	Total	150	100.0	100.0	

Trainees do not learn a lot since the skills provided by enterprises are too easy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	32	21.3	21.3	21.3
	2.0	46	30.7	30.7	52.0
	3.0	50	33.3	33.3	85.3
	4.0	21	14.0	14.0	99.3
	5.0	1	.7	.7	100.0
	Total	150	100.0	100.0	

Skills provided by enterprises are interesting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	59	39.3	39.3	39.3
	2.0	48	32.0	32.0	71.3
	3.0	29	19.3	19.3	90.7
	4.0	14	9.3	9.3	100.0
	Total	150	100.0	100.0	

Skill training provided by enterprises require great effort

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	23	15.3	15.3	15.3
	2.0	46	30.7	30.7	46.0
	3.0	35	23.3	23.3	69.3
	4.0	33	22.0	22.0	91.3
	5.0	13	8.7	8.7	100.0
	Total	150	100.0	100.0	

Trainees cannot comprehend the skills provided by enterprises because skills are too difficult

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	20	13.3	13.3	13.3
	2.0	36	24.0	24.0	37.3
	3.0	46	30.7	30.7	68.0
	4.0	39	26.0	26.0	94.0
	5.0	9	6.0	6.0	100.0
	Total	150	100.0	100.0	

Training provided by enterprises have high contribution to enhance knowledge and skills of the trainees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	15	10.0	10.0	10.0

	2.0	36	24.0	24.0	34.0
	3.0	27	18.0	18.0	52.0
	4.0	52	34.7	34.7	86.7
	5.0	20	13.3	13.3	100.0
	Total	150	100.0	100.0	

Apprenticeship helps a lot to do to boost trainees confidence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	13	8.7	8.7	8.7
	2.0	21	14.0	14.0	22.7
	3.0	28	18.7	18.7	41.3
	4.0	68	45.3	45.3	86.7
	5.0	20	13.3	13.3	100.0
	Total	150	100.0	100.0	

Enterprises are well equipped with training materials

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	22	14.7	14.7	14.7
	2.0	29	19.3	19.3	34.0
	3.0	24	16.0	16.0	50.0
	4.0	31	20.7	20.7	70.7
	5.0	44	29.3	29.3	100.0
	Total	150	100.0	100.0	

Enterprises uses advanced technologies as compared to facilities in TVET colleges

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	18	12.0	12.0	12.0
	2.0	21	14.0	14.0	26.0
	3.0	30	20.0	20.0	46.0

	4.0	53	35.3	35.3	81.3
	5.0	28	18.7	18.7	100.0
	Total	150	100.0	100.0	

Time allotted for the apprenticeship is appropriate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	18	12.0	12.0	12.0
	2.0	34	22.7	22.7	34.7
	3.0	44	29.3	29.3	64.0
	4.0	35	23.3	23.3	87.3
	5.0	19	12.7	12.7	100.0
	Total	150	100.0	100.0	

Duration of the placement in enterprises fits with the expected learning outcome

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	35	23.3	23.3	23.3
	2.0	50	33.3	33.3	56.7
	3.0	41	27.3	27.3	84.0
	4.0	17	11.3	11.3	95.3
	5.0	7	4.7	4.7	100.0
	Total	150	100.0	100.0	

Enterprises believe that students/apprentices have the capacity to operate machines/materials in the organisation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	37	24.7	24.7	24.7
	2.0	59	39.3	39.3	64.0
	3.0	42	28.0	28.0	92.0
	4.0	11	7.3	7.3	99.3
	5.0	1	.7	.7	100.0

	Total	150	100.0	100.0	

Apprenticeship gives opportunity to develop skills of the trainees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	5	3.3	3.3	3.3
	2.0	14	9.3	9.3	12.7
	3.0	60	40.0	40.0	52.7
	4.0	50	33.3	33.3	86.0
	5.0	21	14.0	14.0	100.0
	Total	150	100.0	100.0	

Cooperative training contribute in producing competent workforce

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	26	17.3	17.3	17.3
	2.0	33	22.0	22.0	39.3
	3.0	48	32.0	32.0	71.3
	4.0	38	25.3	25.3	96.7
	5.0	5	3.3	3.3	100.0
	Total	150	100.0	100.0	

Cooperative training contributes to enhance quality of training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	10	6.7	6.7	6.7
	2.0	20	13.3	13.3	20.0
	3.0	60	40.0	40.0	60.0
	4.0	56	37.3	37.3	97.3
	5.0	4	2.7	2.7	100.0
	Total	150	100.0	100.0	

Apprenticeship is not productive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	24	16.0	16.0	16.0
	2.0	56	37.3	37.3	53.3
	3.0	37	24.7	24.7	78.0
	4.0	30	20.0	20.0	98.0
	5.0	3	2.0	2.0	100.0
	Total	150	100.0	100.0	

Apprenticeship is relevant in familiarising self with the world of work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	10	6.7	6.7	6.7
	2.0	29	19.3	19.3	26.0
	3.0	57	38.0	38.0	64.0
	4.0	44	29.3	29.3	93.3
	5.0	10	6.7	6.7	100.0
	Total	150	100.0	100.0	

Enterprises check out if trainees meet the minimum standard

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	52	34.7	34.7	34.7
	2.0	63	42.0	42.0	76.7
	3.0	24	16.0	16.0	92.7
	4.0	11	7.3	7.3	100.0
	Total	150	100.0	100.0	

Descriptive Statistics (Students)

No.		N	Mean		Std. Deviation
		Statistic	Statistic	Std. Error	Statistic
1	Enterprises assign focal person who facilitate the apprenticeship	150	3.727	.0912	1.1167

2	Focal persons assigned by enterprises are highly competent	150	2.700	.0755	.9250
3	Enterprises are well organised and treat apprentices as individual	150	2.480	.0706	.8648
4	Enterprises have confidence in trainees skill	150	2.520	.0812	.9948
5	Trainees are allowed to be engaged in hand-on practices	150	2.380	.0920	1.1273
6	Trainees are not allowed to use the resources in the enterprises as much as required	150	3.607	.0887	1.0862
7	Enterprises have appropriate place for training	150	2.060	.0629	.7705
8	There is mismatch between number of trainees and training space available in enterprises	150	3.640	.0853	1.0445
9	There is established support system in the enterprises	150	2.347	.0708	.8669
10	There is strong correlation between what I have learned in TVET and the apprenticeship in the enterprises	150	3.113	.1060	1.2981
11	Enterprises prepare different kinds of learning experiences that helps to enhance trainees' skill in advance	150	2.333	.0790	.9670
12	Enterprises evaluate performance of trainees objectively	150	1.827	.0680	.8334
13	Assessment done by the enterprises is performance based	150	1.760	.0588	.7206
14	Trainees do not learn a lot since the skills provided by enterprises are too easy	150	2.420	.0815	.9985
15	Skills provided by enterprises are interesting	150	1.987	.0803	.9830
16	Skill training provided by enterprises require great effort	150	2.780	.0982	1.2033
17	Trainees cannot comprehend the skills provided by enterprises because skills are too difficult	150	2.873	.0919	1.1250
18	Training provided by enterprises have high contribution to enhance knowledge and skills of the trainees	150	3.173	.1000	1.2247
19	Apprenticeship helps a lot to do to boost trainees confidence	150	3.407	.0937	1.1475
20	Enterprises are well equipped with training materials	150	3.307	.1178	1.4422
21	Enterprises uses advanced technologies as compared to facilities in TVET colleges	150	3.347	.1036	1.2691
22	Time allotted for the apprenticeship is appropriate	150	3.020	.0985	1.2066
23	Duration of the placement in enterprises fits with the expected learning outcome	150	2.407	.0903	1.1058
24	Enterprises believe that students/apprentices have the capacity to operate machines/materials in the organisation	150	2.200	.0751	.9196
25	Apprenticeship gives opportunity to develop skills of the trainees	150	3.453	.0783	.9595
26	Cooperative training contribute in producing competent workforce	150	2.753	.0912	1.1169
27	Cooperative training contributes to enhance quality of training	150	3.160	.0757	.9274
28	Apprenticeship is not productive	150	2.547	.0854	1.0465
29	Apprenticeship is relevant in familiarising self with the world of work	150	3.100	.0823	1.0084
30	Enterprises check out if trainees meet the minimum standard	150	1.960	.0732	.8965
	Valid N (listwise)	150			

Appendix K: Description of data collected from instructors (Frequency table)

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	68	85.0	85.0	85.0
	Female	12	15.0	15.0	100.0
	Total	80	100.0	100.0	

Years of Service

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5 years	8	10.0	10.0	10.0
	6-10 years	37	46.3	46.3	56.3
	Above 10 years	35	43.8	43.8	100.0
	Total	80	100.0	100.0	

Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	1	1.3	1.3	1.3
	Degree	76	95.0	95.0	96.3
	MA/MSc	3	3.8	3.8	100.0
	Total	80	100.0	100.0	

Center

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ambo Poly-technique	10	12.5	12.5	12.5
	Bakko TVET	10	12.5	12.5	25.0
	Adama Poly-technique	10	12.5	12.5	37.5
	Bushoftu TVET	10	12.5	12.5	50.0
	Chiro TVET	10	12.5	12.5	62.5
	Hirna TVET	10	12.5	12.5	75.0
	Jimma Poly-technique	10	12.5	12.5	87.5
	Agaro TVET	10	12.5	12.5	100.0

	Total	80	100.0	100.0	

Assign_focal_person

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	7.5	7.5	7.5
	Disagree	10	12.5	12.5	20.0
	Not sure	23	28.7	28.7	48.8
	Agree	33	41.3	41.3	90.0
	Strongly agree	8	10.0	10.0	100.0
	Total	80	100.0	100.0	

Focal_person_competent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	7.5	7.5	7.5
	Disagree	19	23.8	23.8	31.3
	Not Sure	33	41.3	41.3	72.5
	Agree	16	20.0	20.0	92.5
	Strongly agree	6	7.5	7.5	100.0
	Total	80	100.0	100.0	

Enterprises_organised_Treat_Individually

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	17	21.3	21.3	21.3
	Disagree	32	40.0	40.0	61.3
	Not Sure	15	18.8	18.8	80.0
	Agree	12	15.0	15.0	95.0
	Strongly agree	4	5.0	5.0	100.0
	Total	80	100.0	100.0	

Enterprises_confident_trainees_skill

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Strongly disagree	17	21.3	21.3	21.3
	Disagree	30	37.5	37.5	58.8
	Not sure	30	37.5	37.5	96.3
	Agree	3	3.8	3.8	100.0
	Total	80	100.0	100.0	

Trainees_allowed_practice

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stronly disagree	16	20.0	20.0	20.0
	Disagree	36	45.0	45.0	65.0
	Not sure	20	25.0	25.0	90.0
	Agree	8	10.0	10.0	100.0
	Total	80	100.0	100.0	

Trainees_not_allowed_practice

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	5.0	5.0	5.0
	Disagree	4	5.0	5.0	10.0
	Not sure	23	28.7	28.7	38.8
	Agree	35	43.8	43.8	82.5
	Strongly agree	14	17.5	17.5	100.0
	Total	80	100.0	100.0	

Place_training_appropriate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	15	18.8	18.8	18.8
	Disagree	43	53.8	53.8	72.5
	Not sure	20	25.0	25.0	97.5
	Agree	2	2.5	2.5	100.0
	Total	80	100.0	100.0	

Mismatch_bn_no_sts_Place_Enterprises

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	2.5	2.5	2.5
	Disagree	7	8.8	8.8	11.3
	Not sure	19	23.8	23.8	35.0
	Agree	33	41.3	41.3	76.3
	Strongly agree	19	23.8	23.8	100.0
	Total	80	100.0	100.0	

Zr_support_system_enterprises

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	26	32.5	32.5	32.5
	Disagree	28	35.0	35.0	67.5
	Not sure	22	27.5	27.5	95.0
	Agree	4	5.0	5.0	100.0
	Total	80	100.0	100.0	

Correlation_bnTVET_lesson_Enterprises

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	2.5	2.5	2.5
	Disagree	15	18.8	18.8	21.3
	Not sure	22	27.5	27.5	48.8
	Agree	29	36.3	36.3	85.0
	Strongly agree	12	15.0	15.0	100.0
	Total	80	100.0	100.0	

Enterprises_prepare_varieties_tasks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	37	46.3	46.3	46.3
	Disagree	34	42.5	42.5	88.8
	Not sure	9	11.3	11.3	100.0
	Total	80	100.0	100.0	

Enterprises_evaluate_trainees_objectively

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	41	51.2	51.2	51.2
	Disagree	29	36.3	36.3	87.5
	Not sure	10	12.5	12.5	100.0
	Total	80	100.0	100.0	

Enterprise_assessment_outcome_based

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	37	46.3	46.3	46.3
	Disagree	35	43.8	43.8	90.0
	Not sure	8	10.0	10.0	100.0
	Total	80	100.0	100.0	

Skill_provided_enterprises_easy

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	6.3	6.3	6.3
	Disagree	18	22.5	22.5	28.7
	Not sure	43	53.8	53.8	82.5
	Agree	9	11.3	11.3	93.8
	Strongly agree	5	6.3	6.3	100.0
	Total	80	100.0	100.0	

Skill_provided_interesting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	13	16.3	16.3	16.3
	Disagree	24	30.0	30.0	46.3
	Not sure	19	23.8	23.8	70.0
	Agree	24	30.0	30.0	100.0
	Total	80	100.0	100.0	

Skill_provided_challenging

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	2.5	2.5	2.5
	Disagree	8	10.0	10.0	12.5
	Not sure	18	22.5	22.5	35.0
	Agree	36	45.0	45.0	80.0
	Strongly agree	16	20.0	20.0	100.0
	Total	80	100.0	100.0	

Skill_provided_difficult

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	27	33.8	33.8	33.8
	Disagree	36	45.0	45.0	78.8
	Not sure	10	12.5	12.5	91.3
	Agree	5	6.3	6.3	97.5
	Strongly agree	2	2.5	2.5	100.0
	Total	80	100.0	100.0	

Apprenticeship_boost_confidence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	5.0	5.0	5.0
	Disagree	3	3.8	3.8	8.8
	Not sure	16	20.0	20.0	28.7
	Agree	30	37.5	37.5	66.3
	Strongly disagree	27	33.8	33.8	100.0
	Total	80	100.0	100.0	

Enterprises_equipped_training_materials

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	8.8	8.8	8.8
	Disagree	26	32.5	32.5	41.3

	Not sure	34	42.5	42.5	83.8
	Agree	13	16.3	16.3	100.0
	Total	80	100.0	100.0	

Enterprises_advanced_technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	16	20.0	20.0	20.0
	Disagree	25	31.3	31.3	51.2
	Not sure	18	22.5	22.5	73.8
	Agree	17	21.3	21.3	95.0
	Strongly agree	4	5.0	5.0	100.0
	Total	80	100.0	100.0	

Time_apprentship_appropriate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	11	13.8	13.8	13.8
	Disagree	10	12.5	12.5	26.3
	Not sure	22	27.5	27.5	53.8
	Agree	29	36.3	36.3	90.0
	Strongly agree	8	10.0	10.0	100.0
	Total	80	100.0	100.0	

Duration_placement_fits_learning_outcome

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	14	17.5	17.5	17.5
	Disagree	23	28.7	28.7	46.3
	Not Sure	15	18.8	18.8	65.0
	Agree	11	13.8	13.8	78.8
	Strongly agree	17	21.3	21.3	100.0
	Total	80	100.0	100.0	

Apprentship_develop_trainees_skill

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	17	21.3	21.3	21.3
	Disagree	8	10.0	10.0	31.3
	Not sure	19	23.8	23.8	55.0
	Agree	22	27.5	27.5	82.5
	Strongly agree	14	17.5	17.5	100.0
	Total	80	100.0	100.0	

Cooperative_training_competent_workforce

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	14	17.5	17.5	17.5
	Disagree	33	41.3	41.3	58.8
	Not sure	13	16.3	16.3	75.0
	Agree	9	11.3	11.3	86.3
	Strongly agree	11	13.8	13.8	100.0
	Total	80	100.0	100.0	

Cooperative_training_quality_training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	8	10.0	10.0	10.0
	Disagree	34	42.5	42.5	52.5
	Not sure	10	12.5	12.5	65.0
	Agree	8	10.0	10.0	75.0
	Strongly agree	20	25.0	25.0	100.0
	Total	80	100.0	100.0	

Apprentship_not_productive

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	20	25.0	25.0	25.0
	Disagree	32	40.0	40.0	65.0
	Not sure	22	27.5	27.5	92.5
	Strongly agree	6	7.5	7.5	100.0

	Total	80	100.0	100.0	

Apprentship_familarise_world_work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	8	10.0	10.0	10.0
	Disagree	11	13.8	13.8	23.8
	Not sure	3	3.8	3.8	27.5
	Agree	27	33.8	33.8	61.3
	Strongly agree	31	38.8	38.8	100.0
	Total	80	100.0	100.0	

Framework_TVET_enterprises_partnership

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	8	10.0	10.0	10.0
	Disagree	16	20.0	20.0	30.0
	Not sure	21	26.3	26.3	56.3
	Agree	25	31.3	31.3	87.5
	Strongly agree	10	12.5	12.5	100.0
	Total	80	100.0	100.0	

Enterprises_incentivised_cooperative_training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	18	22.5	22.5	22.5
	Disagree	46	57.5	57.5	80.0
	Not sure	10	12.5	12.5	92.5
	Agree	6	7.5	7.5	100.0
	Total	80	100.0	100.0	

Enterprises_compensated_cooperative_training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	32	40.0	40.0	40.0
	Disagree	38	47.5	47.5	87.5

	Not sure	10	12.5	12.5	100.0
	Total	80	100.0	100.0	

Compensation_for_damage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	41	51.2	51.2	51.2
	Disagree	34	42.5	42.5	93.8
	Not sure	5	6.3	6.3	100.0
	Total	80	100.0	100.0	

Enterprises_check_trainees_meet_standards

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	30	37.5	37.5	37.5
	Agree	43	53.8	53.8	91.3
	Not sure	7	8.8	8.8	100.0
	Total	80	100.0	100.0	

Entereprises_involve_planning_LA

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	31	38.8	38.8	38.8
	Disagree	30	37.5	37.5	76.3
	Not sure	8	10.0	10.0	86.3
	Agree	11	13.8	13.8	100.0
	Total	80	100.0	100.0	

Enterprises_aware_learning_outcome_trade

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	21	26.3	26.3	26.3
	Disagree	23	28.7	28.7	55.0
	Not sure	23	28.7	28.7	83.8
	Agree	13	16.3	16.3	100.0

	Total	80	100.0	100.0	

Enterprises_aware_occupational_standard

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	16	20.0	20.0	20.0
	Disagree	49	61.3	61.3	81.3
	Not sure	10	12.5	12.5	93.8
	Agree	5	6.3	6.3	100.0
	Total	80	100.0	100.0	

Descriptive Statistics

No.	Items	N	Mean	Std. Deviation	Variance
1	Enterprises assign focal person who facilitate the apprenticeship	80	3.34	1.067	1.138
2	Focal persons assigned by enterprises are highly competent	80	2.96	1.024	1.049
3	Enterprises are well organised and treat apprentices as individual	80	2.43	1.134	1.285
4	Enterprises have confidence in trainees skill	80	2.24	.830	.690
5	Trainees are allowed to be engaged in hand-on practices	80	2.25	.893	.797
6	Trainees are not allowed to use the resources as much as required	80	3.64	.997	.994
7	The place of training is appropriate	80	2.11	.729	.531
8	There is mismatch between number of trainees and space in enterprises	80	3.75	1.000	1.000
9	There is established support system in the enterprises	80	2.05	.899	.808
10	There is strong correlation between what is learned in TVET and the apprenticeship in the enterprises	80	3.43	1.041	1.083
11	Enterprises have prepared varieties of tasks in advance	80	1.65	.677	.458
12	Enterprises evaluate the performance of trainees objectively	80	1.61	.703	.494
13	Assessment done by the enterprises is outcome based	80	1.64	.661	.437
14	Trainees do not learn a lot because the skills provided by enterprises are too easy	80	2.89	.914	.835
15	Skills provided by enterprises are interesting	80	2.68	1.077	1.159
16	Skills provided by enterprises are challenging	80	3.70	.986	.972
17	Trainees cannot comprehend the skills provided by enterprises because skills are too difficult	80	1.99	.974	.949
18	Apprenticeship helps a lot to boost trainees confidence	80	3.91	1.070	1.144
19	Enterprises are well equipped with training materials	80	2.66	.856	.733
20	Enterprises uses advanced technology as compared with facilities in TVET colleges	80	2.60	1.176	1.382
21	Time allotted for the apprenticeship is appropriate	80	3.16	1.195	1.429
22	Duration of the placement in enterprises fits with the expected learning outcome	80	2.93	1.412	1.994

23	Apprenticeship gives opportunity to develop the skill of trainees	80	3.10	1.393	1.939
24	Cooperative training contribute in producing competent workforce	80	2.63	1.286	1.655
25	Cooperative training contribute to enhance quality of the training	80	2.98	1.396	1.949
26	Apprenticeship is not productive	80	2.25	1.073	1.152
27	Apprenticeship is relevant in familiarising self with the world of work	80	3.78	1.359	1.847
28	There is established framework to forge TVET and enterprises partnership	80	3.16	1.185	1.404
29	Enterprises are incentivised for their participation in cooperative training	80	2.05	.810	.656
30	Enterprises are compensated for their participation in cooperative training	80	1.73	.675	.455
31	There is established system for compensation whenever damage is occurred	80	1.55	.614	.377
32	Enterprises check out if trainees meet the minimum standard	80	1.71	.620	.385
33	TVET involves enterprises in planning learning assessment	80	1.99	1.025	1.050
34	Enterprises are aware of learning outcome of a given trade	80	2.35	1.045	1.091
35	Enterprises are aware of occupational standard	80	2.05	.761	.580

Appendix L: Proof of editing

EDITING SERVICES

To whom it may concern

This letter serves to confirm that editing and proofreading was done for:

KEBEDE SORESSA GUTA

Doctor of Philosophy in Education
University of South Africa

EXPLORING THE IMPLEMENTATION OF COOPERATIVE TRAINING AT TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING COLLEGES IN OROMIA REGIONAL STATE, ETHIOPIA

Cilla Dowse
08 September 2022

Cilla Dowse
PhD in Assessment and Quality Assurance in Education and Training: University of Pretoria 2014
Basic Editing and Proofreading: McGillivray Linnegar Associates 2008
Programme on Editing Principles and Practices: University of Pretoria 2009
Editing and Proofreading for Academic Purposes: McGillivray Linnegar Associates 2021
Professional Editors' Guild Associate Member, DOW003

Rosedale Farm
P.O. Box 48
Van Reenen
Free State
cilla.dowse@gmail.com
Cell: 084 900 7837