UNIVERSITY OF EDUCATION, WINNEBA

STUDENTS' PERCEPTION AND ATTITUDE TOWARDS TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING IN THE WESTERN NORTH REGION

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DECLARATION

Student's Declaration

I, Thomas Sam declare that this dissertation, with the exceptions of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole for another degree elsewhere**.**

Signature: ……

Date: ……

Supervisor's Declaration

I, hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for the supervision of dissertation as laid down by the University of Education, Winneba

Name of Supervisor: Mrs. Patricia Mawusi Amos, Ph.D.

Signature: ……

Date: ……

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Finally, my deepest gratitude goes to all those authors who I made references to their work. I would like to say I am much grateful. However, any shortcoming found in this work, I am most responsible.

DEDICATION

This work is solely dedicated to my priceless wife, Rita Antwi and my children; Godbless Adom Gyimah and Eugene Gyimah Antwi

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ABSTRACT

This study sought to investigate students' perception and attitudes towards Technical and Vocational Education and Training (TVET) in the Western North Region. Specifically, the research was to ascertain students‟ view about Technical and Vocational Education, students‟ attitude and perception towards TVET‟s enrolment and to identify guidance and counselling support that might be implemented in selected technical and vocational schools throughout the Western North. An explanatory sequential mixed method design was used. The primary tools used to collect the necessary data were questionnaire and interview. Questionnaire was employed on quantitative phase while interview was employed to collect qualitative data to supplement the quantitative phase. Stratified sampling technique was employed to select 320 respondents for the quantitative phase whereas twelve students were purposively selected for the qualitative phase. The results indicated that about 80% of students have negative attitude towards TVET while about 85% also have negative perception toward TVET. The results also indicated that the academic background of the students, economic background of students‟ parents, the motivation of getting self-employed or other job from TVET training, the cost involve in TVET education as compared to general education and the labour market indications and demands of skills determine students‟ participation in TVET education. Finally, the results show that self-directed learning and coaching are the two main guidance and counselling technique that are mostly employed to assist Students in TVET education. It is recommended that TVET education in Ghana should focus on practical aspect rather than abstract in order to assist students in the acquisition of employable skills that are needed in the job market field.

CHAPTER ONE

INTRODUCTION

Technical and Vocational Education plays an important role in equipping the individuals with the necessary skills and knowledge to meet the demand of ever-involving job market (UNESCO, 2021). As economies continue to shift towards knowledge-based industries, the need for a skill workforce become increasingly important (ILO, 2011). In this era of technological advancement, where technology is given much attention, a number of countries are also faced with shortage of skilled workforce, global financial and economic instabilities, and unemployment. As a result of this, both advanced and developing countries have appreciated that developing their human capital through education and training is one of the best ways to improve upon their economies (Pelinescu, 2015). Vocational and technical education, lifelong learning, and skills development have been emphasized in the sustainable development goal agenda 2030 (Comyn, 2018). At this age almost all the countries in the world are crying for TVET; from European countries to Africa and specifically Ghana. No country can develop without TVET. TVET increases employment rate, increases human capital in a particular country so that such skills could be used by that country to promote development and so on but despite these benefits TVET have, over the years it is faced with a number of challenges across the world.

This chapter introduces the entire project work that captures the importance of TVET education, attitudes towards TVET; how TVET education is taking in different countries. This part also captures the gap in the literature that needs to be rectified. The chapter also highlight the main issue in the literature that needs to be addressed. The purpose of which this study is conducted is also captured in this chapter. In addition, this chapter also highlighted the contribution of the study to literature,

educational practices and policy making. Finally, chapter one also highlighted the area in which the study is limited and delimited to.

1.1 Background to the Study

It is widely recognised that skills and knowledge are indispensable for employment, social inclusion and job creation, economic and national development, and international competitiveness (Dima et al., 2018) and that education and skills are crucial for improving workers‟ employability, industry productivity and inclusiveness of economic growth (Singh, Singh, Alamm & Agrawal, 2022). There has been a strong drive in several countries for skills development policies (Singh et al., 2022) and transformation in their technical and vocational education and training (TVET) systems (Singh et al., 2022). TVET has attracted attention from both national and international communities. An effective TVET system requires a functional and responsive TVET policy. Olabiyi and Uzoka (2020) believe that development and provision of TVET should begin with policy development followed by establishment of a central implementation agency. The role of the central implementation agency should be able to coordinate, oversee and rationalise all aspects of the TVET sector (Sgarz, 2021). The fundamental purpose of TVET provision include acquisition of knowledge, competencies, skills, and attitude necessary for employment, job creation, and wealth creation, and for social, economic, and national development (Edokpolor & Owenvbiugie, 2017). The approach and mode of provision and development of TVET may vary from one country to another and it may be taught at different educational levels in different TVET institutions (Akoojee, 2016). Technical and vocational education could be offered in either government controlled or private TVET institutions, that is, in formal or non-formal sectors (Akoojee, 2016).

Hutton and Dixon (2016) defines technical and vocational education and training (TVET) as those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences; acquisition of practical skills, attitudes and perception; and understanding and knowledge related to occupations in various sectors of economic and social life. TVET is known by many other names in some countries and regions. Among the names are Apprenticeship Training, Vocational Education, Technical Education, Technical-Vocational Education (TVE), Occupational Education (OE), Vocational Education and Training (VET), Professional and Vocational Education (PVE), Career and Technical Education (CTE), Workforce Education (WE), and Workplace Education (WE). Even though TVET is known by different names, essentially TVET means the same.

Traditionally, vocational education has been identified with educational provision that is directed to occupational learning for types of work that are requiring only lower-level skills, commonly „manual" rather than „intellectual" skills, and which may be taught, because of that, through focused „training", rather than through a more expansive engagement in „education" (Ekhalia et al., 2021). However, with current changes in the world of work and labour market, the orientation of TVET has changed. TVET does not engage itself entirely on the preparation of workforce for low-level jobs. Now TVET is recognized as one of the most important keys to sustainable development. In fact, TVET enhances human capital development for industrialization. It is through programs like TVET that makes a country able to produce high skilled workers needed to propel the economic growth.

Although TVET has been cited both as a system for developing skills and competencies necessary for socio-economic development, national development,

employment and job creation (Aring, 2015) and as a mechanism for poverty alleviation, self- employment and wealth creation (Edokpolor & Abusomwan, 2017), but it is perceived differently by so many people. McGrath (2005) indicates that students and other TVET stakeholders consider low prestige as among the critical lingering challenges bedevilling the TVET sector. In South Africa, TVET has been negatively perceived (Madhow, 2018).

Similarly, in Ghana, the sector has been held in low esteem (Aboagye, 2021). TVET systems have been criticised for using out-dated curriculum and facilities, inadequate teaching and supporting staff, and for offering programmes that do not respond to market and industry requirements (Sifuna, 2020). Negative perceptions and attitude such as these could be attributed to poor TVET policy which often relegates the sector to least desired status in the overall education system in many countries (Sifuna, 2020). The sector has also suffered from fragmentation and lack of coordination (Sifuna, 2020). Several authors in the literature; (Naziz, 2019; Paudel, 2019; Sifuna, 2020) note that TVET can be a dead end. Failure of TVET programmes has been attributed to poor planning and wrong selection of planning personnel (Badenhorst & Radile, 2018).), exacerbated by lack of policy and poor implementation (Allais, 2022). Circumstances such as these points to the need for research into the attitudes and perception associated with TVET in Ghana (Adams et al., 2023).

1.2 Statement of the Problem

In this era of globalization where technology has been improved while most countries are also faced with shortage of skilled workforce, global financial and economic instabilities, and unemployment; both advanced and developing countries have realized that developing their human capital through education and training is one of

the ways to boost their economies (Pelinescu, 2015). Vocational and technical education, lifelong learning, and skills development have been emphasized in the sustainable development goal agenda 2030 (Comyn, 2018). At this age almost all the countries in the world are crying for TVET; from European countries to Africa and specifically Ghana. No country can develop without TVET. Countries such as South Korea and Malaysia; their development is partly traceable to proper attention they pay to TVET (Andreoni & Tregenna, 2018). Mohammed (2020) added that TVET is the only means through which Ghana can reduce unemployment rate in the country.

Despite the benefits TVET contributes to the development of nations, students from both developed and developing countries have differences in attitude and perception toward this programme. For instance, in Australia, students‟ engagement in TVET programmes is based on the perception that it improves their chances of getting a job (Yates, Brindley-Richards & Thistoll, 2020). In Germany TVET is considered as a programme with high status (Bünning, 2022). Marginson (2016) also indicated that parents with lower socioeconomic status in the society encourage their children to join Technical and Vocational Education. Marginson (2016) concluded that most students and parents still choose the academic stream rather than the Technical Education and Vocational Training. Globally, a lot of studies have been conducted on attitude and perception towards TVET (Rathidevi & Sudhakaran, 2019; Zin & Yunus, 2020;Zhi & Atan, 2021; Ayanwale, Molefi & Matsie, 2023). Rathidevi and Sudhakaran (2019) asserted that birth order, number of siblings, parents‟ educational status, family type and maternal employment do not influence the attitude and perception of students towards vocational education. It was reported that majority of the students were not aware about the vocational courses, its scope, eligibility, opportunities and scholarships available. In support of this, Omar et al (2020) suggested that secondary

schools have to work with TVET institutions to create positive attitude and perception towards TVET.

In Africa, the situation is a bit different. A number of students have negative attitude and perception towards TVET. For example, Omar et al (2020) indicated that parents and students preferred courses with better recognition and acceptance as it is believed that TVET is for less privileged in the society. Tlapana and Myeki (2020) investigated students" perception towards TVET Colleges in the Greater Buffalo City Metropole in South Africa. They found that majority of students would prefer a university programme rather to a TVET programme. Also, Mokoro (2023) found that secondary school students in MPwampwa in Tanzania had negative attitude and perception towards vocational education and training.

Okae-Adjei (2017) found that Technical and vocational education is for less fortunate in the society, school dropout and lower academic achievers and as results students have negative attitude and perception towards it. With all the studies conducted the researchers employed either quantitative or qualitative method for their study. Also, none of the studies was conducted in the Western north region of Ghana. Finally, there is also a dearth of studies on the combination of attitude and perception of students towards TVET. Hence, there is empirical and methodological gap which need to be filled. Filling the gap will contribute to existing knowledge. As results of this, the current study sought to employed mixed method approach to investigate students' perception and attitudes about Technical and Vocational Education and Training (TVET) in the Western North Region.

1.3 Theoretical Framework

The theories that underpinned the study are theory of Visual perception (formation of perception) and Super‟s Career theory. These two theories are appropriate to the study because it talk about students‟ attitude, perception and the level in which the respondents understudy make their career choice of which career guidance is necessary. Each of the theories has been justified why it is appropriate for this research work

1.3.1 Theory of Visual Perception (formation of perception)

This theory was propounded by Gregory, (1970). According to the theory of visual perception, we are equipped with sense organs e.g., eye, ear, and nose. Each sense organ is part of a sensory system which receives sensory inputs and transmits sensory information to the brain. Sensory inputs are somehow converted into perceptions. The theory states that perception processes are not direct, but depend on the perceiver‟s expectations and previous knowledge as well as the information available in the stimulus itself.

Prior knowledge can make one to develop a feeling towards situation at hand. Students pursuing TVET related programmes experiences and knowledge about their selected careers will influence their level of perception. Past experiences, what people have said, what they say influences how one‟s image is formed.

The general societal perception and attitudes of TVET negatively or positively affects the image created by the student. The feeling or image created becomes inbuilt so that one will retrieve it any time a similar situation arises. Information will be stored in the memory and is applied when one sees what had been seeing and perception built previously.

However, sometimes there could be illusions which may make people interpret situations wrongly. Gregory, (1970) also says that when we see something it goes to the brain which will interpret it based on prior knowledge, past experiences and beliefs. Interpretation goes through hypothesis testing. This theory reveals that the thoughts perceived may not be justified or may contain false realities that may affects the TVET student‟s attitude and perception of his selected course and career opportunities in the job market.

Gregory (1970) is of the view that sometimes we may get wrong and ambiguous interpretation depending on one‟s own personality and view. The theories employed in the research deemed appropriate compared with other competing theories because they touched on the field of interest to the researcher.

The theories were deemed appropriate and important to the researcher because they explained how perceptions are formed in life and its effects. Further, reasons as to why people form perceptions are brought to light. This perception formation invariably influences the general attitude and academic self-efficacy of the TVET students.

The theory has correlation with the present study because perceptions are formed out of past experiences and what people know as described by Gregory (1970). If this formation of attitudes and perceptions are not intervened through the introduction of guidance and counselling strategies, students career competence is greatly affected leading to confusion, and desperation. The theory of visual perception, as proposed by Gregory (1970) and supported by McLeod (2007), can be used to study students' perception and attitude towards technical and vocational education and training (TVET) in the Western North region of Ghana.

According to the theory, visual perception involves the process of interpreting and organizing sensory information from the environment to create a coherent and meaningful representation of the world. This process is influenced by several factors, including past experiences, cultural background, and contextual cues. Gregory (1970) proposed that perception is an active process, where the brain makes inferences and predictions based on incomplete information from the sensory system. McLeod (2007) further emphasized that perception is not a passive recording of information, but rather an active and constructive process that involves top-down processing and the use of prior knowledge to interpret sensory inputs.

When studying students' perception and attitude towards TVET in the Western North region of Ghana, the theory of visual perception can be used to understand how students make sense of their educational environment, and how their past experiences and cultural background shape their attitudes towards TVET. By using this theoretical framework, researchers can investigate how students perceive the relevance and value of TVET in relation to their career aspirations and personal goals. Furthermore, the theory can help identify the contextual and cultural factors that influence students' perceptions and attitude towards TVET in the region.

While the theory of visual perception provides valuable insights into the formation of perception, it has been critiqued for its limited consideration of individual differences and the influence of social and environmental factors on perception. Some critics argue that the theory tends to overlook the role of cultural diversity and the impact of socialization processes on perceptual development (Segall, 1986). Additionally, the theory has been criticized for its focus on visual perception, neglecting other sensory modalities such as auditory and tactile perception (Gibson, 1986). Therefore, when

using this theory to study students' perception and attitude towards TVET in the Western North region of Ghana, it is important to acknowledge these limitations and consider a holistic approach that takes into account cultural, social, and individual factors.

Overall, the theory of visual perception by Gregory (1970) and McLeod (2007) provides a useful framework for studying students' perception and attitude towards TVET in the Western North region of Ghana. However, it is important to critically evaluate the theory and consider its limitations in order to provide a comprehensive understanding of students' perception of technical and vocational education and training in the region.

1.3.2 Donald Super's career theory

Self – concept is the underlying factor in Super‟s career model (Namale, 2012). Super‟s theory of career development reorganises the fact that people go through as they mature. Super is of the view that career patterns are determined by factors such as personal characteristics, physical and mental development, personal and environmental experiences, mental characteristics, motivation and chances which people are exposed to. People look for career satisfaction through work in which they express themselves and implement and develop their self-concept. That is, every individual at certain periods in lifetime translate his or her thoughts in him or her into occupational terms (Super, 1990).

Super‟s (1990) theory of vocational development emphasizes five vocational life stages which emphasize that each individual must master in each phase a specific and particular task that is built upon each other to prepare him or her for career related

tasks (Namale, 2012). The five stages are growth, exploration, establishment, maintenance, and decline. These stages, in turn, are divided into sub -stages. For example, during the growth stage (ages 0- 15) the child‟s career development starts with curiosity and fantasies. Later, they develop interests and subsequently become aware of their capacities. During the next stage labelled exploration (ages 15-25), it includes three sub- stages. These are crystalizing, specifying, and implementing. At this stage the child enters adolescents (Super, 1990). During this stage the adolescents understand the need for decision-making about life. The adolescent realises that having work is significant part of life. Career decision making is temporal. That is, individual go through trial and error experiences about the field of study until they are able to decide which career path to follow (Namale, 2012). But sometimes they may have some challenges. The other three stages are establishment (ages 25-44), maintenance (ages 45-65), and disengagement (ages 65 and above). In other words, not all adolescents are able to develop values or identify their interests even at the age of 17, across different countries and cultures. Therefore, different interventions may be necessary to accommodate adolescents‟ needs based on their level of career maturity (Super, 1990). Donald Super's career development theory can be used to understand students' perception and attitude towards technical and vocational education and training (TVET) in the Western North region of Ghana. Super's theory puts emphasis on the influence of self-concept and personal experiences on career development.

To study students' perception and attitude towards TVET in this region, researchers can apply Super's theory by examining how students' self-concept and experiences influence their views on TVET programs. Studies in other contexts have shown that individuals with a strong self-concept related to practical skills and vocational

interests are more likely to have positive attitudes towards TVET (Brown & Hirschi, 2011). Hence, examining students' self-concept can provide insights into their inclination towards TVET in the Ghanaian context.

Despite the usefulness of Super's theory, it has received several critiques. One criticism of Super's theory is that it might not fully account for cultural and contextual factors influencing career development (Barak & Cohen-Fridel, 2018). In the case of the Western North region of Ghana, cultural norms and societal expectations could play a significant role in shaping students' attitudes towards TVET, which might not be fully addressed by Super's theory.

Moreover, Super's theory has been critiqued for being overly individualistic and not fully addressing systemic issues such as limited access to TVET programs, which could be a significant barrier in regions like Western North Ghana (Watts, 2006). This highlights the need to consider structural inequalities in addition to personal experiences when studying attitudes towards TVET.

The research is based on the second stage of this theory, Exploration stage (15-25). The researcher sees this theory appropriate for his research work because majority of the students at Senior High Technical Schools are in adolescent. At the exploration stage, adolescents go through a lot of trial experiences in their career decision before they are able to or select job that suit their personality (Namale 2012). Some of these students may make right decision while the others may also make wrong choice. This suggest that these students might have gone through career guidance or not before they choose their programme. No matter the type of guidance given to these students, it has serious implication on the programme they are offering. This will pave way for some of them to either develop positive or negative attitude towards the programme

they are offering of which TVET is one of them. Donald Super's career theory of vocational development (1990) can be applied to study students' perceptions and attitudes towards technical and vocational education and training (TVET) in the Western North region of Ghana. This theory provides a framework for understanding how individuals develop their career aspirations, make career decisions, and ultimately shape their vocational paths.

Super (1990) applied his career development theory to the context of Uganda, demonstrating its universal applicability. Super emphasized the significance of personal and environmental factors in career development, including the role of self-concept, educational and occupational information, and general life circumstances. A study by Owusu-Biney (2017) found that students in Ghana often have negative perceptions towards TVET due to cultural biases and lack of exposure to diverse career options. This study supports the use of Super's theory to understand how students' self-concept and social experiences impact their attitudes towards TVET.

However, it is important to acknowledge the limitations of Super's theory in the Ghanaian context. Super's theory was developed in Western societies and may not fully capture the cultural and social factors that influence career choices in Ghana. Additionally, Super's emphasis on individual agency and self-concept may downplay the role of structural barriers and inequalities in access to TVET programs in Ghana, which are important considerations in understanding students' attitudes towards TVET.

In the case of studying students' perceptions and attitudes towards TVET in the Western North region of Ghana, Super's theory can assist in understanding how students perceive vocational education and training, how they make decisions about

pursuing such education, and how they envision their potential career paths within the vocational sector. By considering the individual and environmental factors that influence career development, researchers can gain insights into the specific barriers and motivations that shape students' attitudes towards TVET in the region.

However, a critique of Super's theory is that it may not adequately address sociocultural influences on career development, particularly in the context of the Western North region of Ghana. While the theory outlines the role of environmental factors, it may not fully encompass the cultural dimensions that impact individuals' perceptions of vocational education and training.

Moreover, the theory's emphasis on linear career development stages may not fully capture the complex and non-linear nature of vocational pathways, especially within the context of TVET in Ghana. This critique highlights the need for researchers to consider broader sociocultural and contextual factors when applying Super's theory to the study of students' perception towards TVET in the region.

In conclusion, while Super's career theory of (1990) of vocational development provide a valuable framework for studying students' perceptions and attitudes towards TVET in the Western North region of Ghana, it is essential to critically assess its applicability within the specific sociocultural context and consider the non-linear nature of vocational pathways. Future research should aim to integrate these considerations into the study of TVET in order to generate more comprehensive insights into students' attitudes and perceptions.

1.4 Objectives of the Study

The study sought to achieve the following research objectives:

1. To determine students‟ attitudes towards technical and vocational education in the Western North region of Ghana.
2. To determine students‟ perception towards technical and vocational education in the Western North region of Ghana.
3. To ascertain the perceived determinants of student‟s participation in technical and vocational education in the Western North region
4. To determine guidance and counselling support that could be employed among selected technical and vocational schools in the Western North to improve student‟s academic self-esteem/self-efficacy.

1.5 Research Questions

The study sought to find answers to the following research questions:

1. What are students‟ attitudes towards technical and vocational education in the Western North region?
2. What are students‟ perception towards Technical and vocational education and training?
3. What perceived factors determine students‟ participation in technical and vocational education in the Western North region?
4. What guidance and counselling strategies could be employed to assist students in TVET programmes in Western North?

1.6 Significance of the Study

This study will provide relevant material for the ministry of education and the TVET to look at and consider while making decisions on how and why to restructure technical and vocational education in modern- day Ghana. The study will contribute to existing literature on the significance of the integration of guidance and counselling in the technical and vocational institutes in improving the quality of student‟s behaviour, attitudes and overall educational outcomes.

This research will help Policy makers from other regions in the country struggling with the development of such institutes to see the benefits of the integration of guidance and counselling and how it could contribute positively to their institutions if properly implemented. The study will further serve as a tool to re-educate students and parents on the role of TVET in national development and advertise it attractiveness to empower the youth to participate in such programmes.

1.7 Delimitation of the Study

The study was delimited to students‟ attitudes towards technical and vocational education, students‟ perception of instructor‟s competence, student‟s perception of skills acquired and strategies to be adopted to improve the student self- efficacy through guidance and counselling. Geographically, the study was delimited to four selected technical and vocational senior high schools in the Western North region of Ghana. The current study also adopted parallel convergent research design for the study.

1.8 Organisation of the Study

The study will be organized into five (5) chapters. The first chapter will focus on the background of the study, statement of the problem, the purpose of the study, the objectives of the study, the research questions, significance of the study, delimitations and limitations of the study, the definition of terms and the organisation of the rest of the study.

Chapter two focus on the review of related literature on Technical and Vocational education and the role of guidance and counselling. This will comprise the definition of concepts, theoretical framework, empirical framework and the conceptual framework, ending with a summary of the literature review.

Chapter three will highlight the research design, the study area, the population, sample and sampling techniques used in the study. It will describe the quantitative and qualitative instruments, again, the quantitative and qualitative data collection procedure, the quantitative and qualitative data analysis procedure and ethical consideration.

The chapter four will deal with the data analysis procedure for both quantitative and qualitative analysis and the subsequent discussion of the findings with literature. Chapter five, deals with the summary of the study, conclusion drawn based on the findings, recommendations based on the conclusions, and suggestions made on the topic for future research.

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

Review of related literature was achieved through the following heading and sub-headings; attitude, attitude formation and structure, perception towards technical and vocational education, vocational education/training, and benefits of Technical and Vocational Education (TVET), perceived factors that influence student‟s choice of Technical and vocational education and Guidance and counselling strategies employed to improve student career competences

2.1 Empirical Review

Attitude

The term attitude refers to a hypothetical construct, namely a predisposition to evaluate some object in a favourable or unfavourable manner. This predisposition cannot be directly observed, but it can be inferred from individuals‟ responses to the attitude object, which can run from overt behaviour, such as approaching or avoiding the object and explicit verbal statements to covert responses, which may be outside of the individual‟s awareness, such as minute facial expressions (Gottschalk & Gleser, 2022). The attitude construct continued to be a major focus of theory and research in the social and behavioural sciences, as evidenced by the proliferation of research articles, chapters, and books on attitude- related topics (Ajzen et al., 2018).

One of the attitude definitions is to think of attitude as “an underlying disposition, which enters along with other influences, into the determination of a variety of behaviours toward an object or class of objects, including statements of beliefs and feelings about the object and approach-avoidance actions with respect to it” (Ajzen

et.al., 2018). There is general agreement that attitude represents a summary evaluation of a psychological object captured in such attribute dimensions as good-bad, harmful-beneficial, pleasant-unpleasant, and likeable- dislikeable (Ajzen et.al., 2018).

Despite the diverse interpretations of the meaning of attitude, there are areas of substantial agreement. First, there is consensus that an attitude is a predisposition to respond to an object rather than the actual behaviour toward such object. The readiness to behave is one of the qualities that are characteristic of the attitude. A second area of substantial agreement is that attitude is relatively persistent over time. The persistence of attitude contributes greatly to the relative consistency of behaviour, which introduces a third area of agreement. Attitude produces consistency in behavioural outcroppings. Fourth and finally, attitude has a directional quality (Ajzen et.al. 2018). There is general agreement that attitude connotes preference regarding outcomes involving the object, evaluations of the object, or positive-neutral- negative affections for the object. Affect is an important dimension of attitude. The most popular conception of attitude is that an attitude consists of three components: cognitive, emotional, and action tendency. While all beliefs one has about an object are incorporated into the cognitive component, it is the evaluative beliefs that are the most critical to attitude as a disposition concept (Ajzen et.al. 2018).

2.2 Attitude Formation and Structure

One traditional view of attitudes is that they have three interrelated components. These are cognitive, affective, and behavioural components. A later approach is to consider these three aspects as separate and distinct entities, calling them beliefs, attitudes, and behavioural intensions (Braddock & Dillard, 2016). A third view point, called a latent process, which considers attitude as an "unobservable intervening

variable and it must be inferred from observable responses. It holds that attitudes can arise from stimulus events through cognitive, affective, and/or behavioural process, and that they can be demonstrated by any or all these three types of responses" (Krosnick, Judd & Wittenbrink, 2018).

A widely accepted hierarchical model of attitude is described in which attitudes are made up of three components; cognitive component that is human thinking or beliefs, an affective component that is emotions, and a conative or behavioural component that is a predisposition to action or behaviour (Abun, et al., 2021). Evaluative responses could be classified into the categories of affect, behaviour, and cognition. Further, in accordance with an information-processing approach, attitudes are shown to develop because of salient beliefs formed about the attitude object (Wyer, 2017). It is these salient beliefs that are the immediate determinants of a person‟s attitude (Ajzen et.al. 2018). Although the three-component descriptions do describe attitudes in many cases, some theorists have pointed out that emotions or actions do not necessarily accompany all attitudes (Ajzen et.al. 2018).

2.2.1 Perception

Perception (from the Latin perceptio, percipio) is the process of attaining awareness or understanding of the environment by organizing and interpreting sensory information. Slovic (2016) said that perception aspect has caused considerate concern in education. It involves the tendency to evaluate something. Perceptions are acquired in life out of conflicts and a principle underlying the idea or something and one‟s cherished ideals. All perception involves signals in the nervous system, which in turn result from physical stimulation of the sense organs. For example, vision involves light striking the retinas of the eyes, smell is mediated by odour molecules and

hearing involves pressure waves. According to Tankard and Paluck (2016), perceptions sometimes change. This change can be registered through motivation.

Perception is not the passive receipt of these signals, but can be shaped by learning, memory, and expectation (Alek et al., 2020). Perception involves these "top-down" effects as well as the "bottom- up" process of processing sensory input (Shea, 2015). Perception depends on complex functions of the nervous system, but subjectively seems mostly effortless because this processing happens outside conscious awareness (Alek et al., 2020). Since the rise of experimental psychology in the late 19th Century, psychology"s understanding of perception has progressed by combining a variety of techniques. Psychophysics measures the effect on perception of varying the physical qualities of the input. Sensory neuroscience studies the brain mechanisms underlying perception (King, Pescetelli & Dehaene, 2016).

Perceptual systems can also be studied computationally; in terms of the information they process (Fish, 2021). Perceptual issues in philosophy include the extent to which sensory qualities such as sounds, smells or colours exist in objective reality rather than the mind of the perceiver (Fish, 2021). Although the senses were traditionally viewed as passive receptors, the study of illusions and ambiguous images has demonstrated that the brain's perceptual systems actively and pre- consciously attempt to make sense of their input (Ade-Ali, 2019). There is still active debate about the extent to which perception is an active process of hypothesis testing, analogous to science, or whether realistic sensory information is rich enough to make this process unnecessary (Ade-Ali, 2019). The perceptual systems of the brain enable individuals to see the world around them as stable, even though the sensory information may be incomplete and rapidly varying (Ade-Ali, 2019).

Firestone and Scholl, 2016) believes that perception is a constructive process which relies on top-down processing. They believe that perception involves making inferences about what we see and trying to make a best guess. Prior knowledge and experience are crucial in perception (Firestone & Scholl, 2016). When we look at something, we develop a perceptual hypothesis, which is based on prior knowledge. The hypotheses we develop are nearly always correct. However, on rare occasions, perceptual hypotheses can be disconfirmed by the data we perceive. A lot of information reaches the eye, but much is lost by the time it reaches the brain (Cole & Flexer, 2019) estimates about 90% is lost. Therefore, the brain must guess what a person sees based on past experiences.We actively construct our perception of reality.

2.3 Vocational Education/Training

Vocational education and training go by various names, such as career and technical education, technical education, vocational education/training, skill development, and technical and vocational education and training. Across advanced and developing economies, vocational education and/or training programs are offered at various types of institutions, including schools, colleges, public and private vocational institutions, on the job, and at informal settings like the home or community (Walker & Hofstetter, 2016). Moreover, they are offered at various levels within the education system.

In its „Revised Recommendations for Technical and Vocational Education and Training", Bang and Park (2021) provide a definition for vocational education and training that reflects the shifts over time in thinking about what constitutes vocational activities. The shift has been from a view of vocational education quite narrowly in terms of preparing individuals for a particular job or occupation to a vision of it as a strategy for addressing various educational, economic, and social objectives (Bang &

Park, 2021). „Technical and Vocational Education and Training" (TVET) is defined as "a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life" (Wahab & Ali, 2019). As such, TVET includes all activities undertaken at various stages, from secondary to postsecondary and on-the- job training (Wahab & Ali, 2019).

2.4 Benefits of Technical and Vocational Education (TVET)

All the authors that agreed that TVET will benefit the country as a whole and should be given special attention did so under their own specific conditions. For instance, Bano, Yang and Alam (2022) tried to find out the importance of vocational training for economic growth in Pakistan. They used data from the Labour Force Survey published by Federal Bureau of Statistics, Statistical Division of Government of Pakistan and concluded in their article that vocational education and training are indispensable instruments for improving labour mobility, adaptability, and productivity, thus contributing to enhancing firms, competitiveness, and redressing labour market imbalances.

According to the authors, for TVET to significantly translate into economic growth, the government and private sectors should pursue policies that promote growth in Human Resource Development (HRD) investment and improved social infrastructure. They claim that the demand for vocationally trained and technically educated human resource rises with every step towards industrialization and modernization of production units and work premises. Moreover, with the emergence of globalization there is an increase of capital inflow from developed to developing countries implying

that even without technology imports, capital output ratios in developing countries would rise and the complementarities between capital and skills, this would raise the relative demand for skilled labour (Bano, Yang & Alam, 2022)) hence the need for a HRD fixated TVET

2.5 Students' attitudes towards Technical and Vocational Education

Empirical research suggests that the general view against vocational education is negative and that the VET programs are suffering from the low reputation and bad image in the society (Pilz & Ramasamy, 2022). The learner‟s attitudes play a critical role in determining the success in school. Maclean and Wilson (2009) asserted that it is a known fact that technical training has not gained acceptance by all in developing economies and conversely education managers point out that this type of education requires heavy capital investment compared to general education to develop curricula, train staff, and equip classrooms for these specialized subjects, which generally cost three times more than academic courses (Ronaghi & Ronaghi, 2021). They further pointed out that many parents and trainees view TVET as a „second-class‟ education. From the above assertion of Ronaghi and Ronaghi (2021) it‟s evident that the immediate source of the negative attitude of the policy makers towards TVET has been the cost involved in running TIVET programs. This involves enormous costs that have not been easily affordable for the developing nations, especially when the World Bank withdrew its investment in this type of education in favor of the general education in the 1980s.The researcher agrees to the observations made by Maclean and Wilson that majority of trainees do not feel motivated in technical institutions. This attitude has sidelined TVET to the workplaces as the best training arena by most experts and policy-makers, especially after the radical policy shift by the World Bank, which was once considered TVET‟s staunchest supporter.

A study by Oduro et al. (2018) found that students in the Western North region of Ghana had a poor attitude towards technical and vocational education and training (TVET). This is consistent with previous research conducted in the region by Dzobo (2016), who also found that students showed a lack of interest in TVET programs. These findings are also supported by a study conducted by Asante (2017), which found that students in the Western North region rarely consider TVET as a viable educational pathway due to a lack of awareness and understanding of its benefits.

However, it is important to note that not all research supports the notion that students in the Western North region have a poor attitude towards TVET education. A study by Agyemang and Amponsah (2019) found that while there were some barriers to accessing TVET programs in the region, students actually had a positive attitude towards TVET education once they were made aware of the potential opportunities and benefits it offered.

However, Kagema et al. (2016) observes that the attitude towards TIVET is not all that positive in the Asian countries low prestige attached to vocational education and its inherent inequities are somewhat a common phenomenon in many countries including, India, Indonesia, Philippines and Sri Lanka and, to some extent, Korea and Taiwan. TIVET is suspiciously perceived as “a second-class education meant for those of lower class or lower caste, racial minorities and women”. TVET is not education that elicits a high status in terms of pay and social standing. The study is based on a developing world and therefore the study variables and environment and thus might produce divergent results.

Azondo (2014) carried out a cross-sectional study to analyse the influence of student attitude on performance in technical graduates. The study showed that majority of the trainees had positive attitudes towards technical skill involved in technical education. The study also noted that there was a positive relationship between trainees‟ attitude in technical skill acquisition and their performance. A Pearson correlation coefficient (r) of relationship between attitude and performance in technical skill involved in technical education gave an „r‟ value of 0.366 which was a positive correlation. However, the study also noted that good performance and knowledge of the usefulness of technical skills in life did not stimulate the learners to continue their careers in a related technical profession. The rate of employability of technical graduates in Kenya is higher and therefore might produce different findings.

Kagema et al. (2016) research on TIVET in Tanzania in the early 80s concludes that if vocational courses in secondary schools can appear to the trainees to be a means for hedging one‟s bets on further academic education, there is no shortage of applicants. Dewey rejected the notion that „what was good for industry was good for the people‟. Instead, the study advocated that educators should use industry to make schooling more active and more meaningful to trainees and that education should provide the skills and attitudes for living in an era of science and technology. Kenya is one of the developed countries hence the vocational training might be more advanced compared to Tanzania. Therefore, the researcher agrees with the Lauglo‟s findings and holds the view that technical training might have a higher value in Kenya and trainees might be holding high preference in applied sciences.

Zulu and Mutereko (2020) noted that the attitudes of learners towards TVET are low compared to university education. Therefore, the low attitude enslaves trainees undertaking studies in TVET to be lower cadre compared to other trainees in universities and other colleges. The technical training in Kenya particularly in applied sciences seems to have more employability compared to technical training in business and art-based subjects. Therefore, the researcher holds that the trainee‟s attitudes particularly in applied sciences might be very positive. In Sub-Sahara Africa, parents view on vocational education is that the vocational skills are not competitive enough for more high-income jobs in the labour market (Lolwana, 2017). Many results on their investigations showed that people have less positive attitudes for the vocational and technical education and that vocational education is not easily accepted. Vocational schools have bad reputation in the society (Lolwana, 2017).

Male students have more positive attitude against the vocational and technical programs than the female (Mbelle et al., 2018). However, the girls have more positive point of view towards vocational education, whereby the boys hold more negative concepts towards VET programs (Alnaqbi, 2016). Negative perceptions about the vocational programs are more from the male students who come from the higher socioeconomic standard (Alnaqbi, 2016). The low social standard of technical works is the main reasons to influence in the negative attitude against the technical education in Greece (Alnaqbi, 2016). Parents who choose the vocational school are not focusing on preparing their children for a vocation but instead they view vocational education as another path for their children and also a chance for their education (Savickas, 2019). Omar, Zahar and Rashid (2020) found that TVET courses teach skills that the employers need and with that, they must offer high-level of learning experiences. At the graduate level, the vocational skills should have been introduced as an additional

subject in order to develop the employable skills within the students and to prepare them for self-employment (O'Leary, 2017).

"In Nigeria, due to the deficiency of understanding of the significance, scope and also content of the courses or deficiency of work information, vocational and technical education is remaining rejected by the students and parents. To create the required career awareness and job information, career education should be put into use in order to enable the students to get certain information about their career choices" (Okolie et al., 2020). Okoye and Arimonu (2016) also reported that not everybody needs university education in Nigeria. Some of the students should go to Technical/Vocational schools. Okoye and associate based their assertion on the fact that if everybody should go to university , as soon as they return , they would not be a ready job market for them because many expatriates engineers who are receiving huge sums of dollars from road construction and other projects are people who went to Technical/ Vocational schools .Okoye and Arimonu (2016) added that because most people in Nigeria are not taken Technical /Vocational Education seriously, that is why unabated crimes and poverty have become part of their societies today

Akosah-Twumasi et al., (2018) study aimed at knowing how parents of African descent influence their children in making their decisions to apply for vocational education professions. A sample of students who chose the vocational education specialization and who have professional activities was chosen and the results of the study through the analysis of the information indicated that there are factors that influenced their choice of vocational education, including the desire to imitate the behavior of parents, support parents for the professional direction and discover the preparations of their children towards the professions by providing appropriate

conditions and capabilities that help them in crystallizing their capabilities and support the positive trends of different professions.

Badrakhan, (2014) study aimed to identify the attitudes of the tenth-grade students in Jordan towards joining vocational education fields after the end of the basic education stage. The study sample consisted (707) male and female students in Jordanian schools. The results showed that the attitudes of students in the tenth basic grade in Jordan towards vocational education after the education stage there is a difference in the level of students "attitude towards vocational study, attributable to the variable of achievement and in favour of those with low and medium achievement. The variable of the level of guardian education and in favour of the children academic qualifications Bachelor"s degree or less, and the variable number of members of the exponent for the benefit of the family of the largest number, there is no difference in the level of students' attitudes towards vocational education for the sex variable and the level of household income (Badrakhan 2014).

Kreisman and Stange (2020) conducted a study to find out the factors that affect secondary school students" attitudes towards technical and vocational education in America, Michigan. The results showed that there are many factors that affect students" attitudes towards vocational and technical education. The study reveals that enrolled students have positive attitudes better than students who did not enroll from their peers, as well as their belief and perception that those who enroll in vocational education are less efficient than their colleagues and have no academic ambition and plan to work and join the army after high school. The study reveals that, students are strongly influenced by the opinions of their friends, parents, teachers, and professional instructors.

Ismail and Hazaymeh (2014), conducted research on teaching vocational education at the basic education stage in the Hashemite Kingdom of Jordan. The study was to find out the extent of the contribution of vocational education to students‟ attitudes towards vocational education. The degree of approval was positive. There were no differences for the gender variable and the educational qualification.

Ayub (2017) investigated on the impact of parental influence on student‟s attitude towards Technical and Vocational Education. Findings of their research were that parents‟ educational level, occupational and income have significant impact on students‟ choice towards Technical and Vocational Educational.

Omar et, al. (2020), investigated from their research that peers influence is most important for selection of subjects. Some students select subjects which their friends have chosen. Same peer group belonging to any social class who share same values influence their friends in the choice of Vocational Education.

Donald, Ashleigh and Baruch (2018) found out that students have perception that career related to Technical and vocational education is not secure and does not attract much pay and also has low status in society.

Ozer and Perc (2020 found out that student Technical and Vocational education is for students from poor socioeconomic background. Also, parents place of living has a lot of impact on their children for selection on TVET as a career (Nayab, Fatima & Jahanzaib, 2022).

2.6 Students' Perception towards Technical and Vocation Education and Training

Research has indicated that students nowadays are not likely to enrol in TVET, resulting in a low number of TVET students below market demand (Aziz, 2019). Several influential factors that affect TVET‟s attractiveness have been identified such as students‟ interest, parental influence, negative social perception, negative employers‟ perception, government‟s current policy, high education cost, inexperienced TVET instructors and poor infrastructure in TVET institutions (Abdul-Aziz et al., 2020). Another factor is social perception. It was very common that society thought that TVET students were the students who are weak in academics. It was found that in many cases, the negative social perception will shift away students‟ interest since they did not want to be labelled as low achievers in school (Abdul-Aziz et al., 2020). Unfortunately, social perception would also influence parents' perceptions. This was because parents‟ perception was an important factor since students typically took their parents' advice and guidance into consideration when making decisions (Hussin et al., 2017). This always happens where employers in the workplace did not value TVET qualifications due to a poor social attitude (Cheong & Lee, 2016).

Omar et al. (2020) indicated that the demographic of 150 TVET instructors were analysed by using SPSS software. The researchers carried out descriptive analysis for the demographic characteristics such as gender, age, race, highest education level and teaching experiences of the TVET teachers. A high percentage of respondents were male, aged 41-51 years old, Malay race, had Bachelor‟s Degree and had teaching experiences which more than 16 years and were above. Furthermore, the researchers also analysed the relationship between students‟ socio-demographic background

(gender) and their knowledge possession, interest and motivation related to TVET. The finding revealed that students‟ gender did not have any significance with their knowledge possession, interest and motivation (Omar et al., 2020). The result also indicated that Malaysian were still having a negative perception towards TVET, which was similar to the results shown in studies by Hassan et al. (2019) and Cheong and Lee (2016). Finally, Abdul-Aziz et al. (2020) conducted a descriptive study by using Mann-Whitney-U Analysis before interpreting the factors that affect students‟ enrolment into TVET. There were hypotheses proposed to determine the significance of gender, socioeconomic level ASM Science Journal, Volume 17, 2022 4 and ethnics which influenced students‟ enrolment into TVET. For the push factors, the finding revealed that gender and socioeconomic level did not have a significant difference in career prospects, whereas ethnicity had a significant difference in career prospects. However, the research that focuses on the students‟ perception of TVET based on their gender and the current study stream is still limited. Most of the previous studies were focusing on the general demographic analysis of respondents. As a result, this study can fill the gap in the literature by conducting a descriptive analysis of students' perceptions of TVET based on their demographic background. The findings can be utilised to determine students' attitudes toward TVET, further allowing the government to devise comprehensive initiatives to enhance students' attitudes toward TVET. Aside from that, this research could help the government to improve the quality of TVET and hence increase its popularity among students.

Tiapana and Myek (2020) investigated Students perception towards technical education and vocational training (TEVT) colleges in the Greater Buffalo City metropole. The study was exploratory in nature as it sought to find out how students in high schools perceive TVET Colleges. Primary data was collected in this study

using the survey method. Non-probability sampling was adopted whereby forty-four (n=44) students were conveniently chosen to participate in the study in the study. Data were analysed using frequencies and percentages. The results indicated that students have negative perception towards TVET and they prefer University to that of TVET School. They concluded that students prefer comprehensive university over TVET colleges.

James et al. (2019) examined the perceptions of secondary school students towards vocational education in selected secondary schools in Kampala district. The study adopted an exploratory research design and used a mixed method approach for purposes of improving reliability of study findings through triangulation. The study‟s target population consisted of 194 senior 3 students conveniently selected from schools in Kampala District. Both primary and secondary data sources were used. A questionnaire designed by the researcher was used to collect information from the students. The data collected using the questionnaire was analyzed using the excel sheet to generate descriptive statistics in form of frequencies, percentages and means. The study findings indicate that much as the students‟ perceptions of vocational education as opposed to general education are not negative per se, they still have apathy towards vocational education and, there is a general perception among students that schools are not offering sufficient information on vocational education making students rely mostly on social media. It was concluded that: students‟ perception towards vocational education is still negative due to lack of adequate information and the students perceive the existing channels through which secondary schools transmit vocational education to be inadequate.

Yamada and Otchia (2021) investigated the perception gaps between teachers and students of technical and vocational education and training (TVET) related to garment production and the reasons behind such gaps. A questionnaire was developed by the authors. It was completed by 162 students and 53 teachers in garment-related programs of seven TVET colleges in Addis Ababa, the capital city of Ethiopia. The findings show that while teachers tend to highlight the importance of practical skills, students desire broader coverage of practical and managerial skills and entrepreneurship. The expectations differ not only based on the person's recognition of labour market conditions but also by the conviction of the efficacy of the education and training system itself. Teachers tend to be persistent on conventional approaches of teaching, while the advanced training on new approaches based on the competency-based training (CBT) significantly impacts on their attitude. Meanwhile, students' perceptions are largely based on their job aspirations and motivations for schooling.

Tshabalala and Ncube (2014).analysed the teachers‟ perceptions on challenges faced by rural secondary schools in the implementation of the technical and vocational education and training policy in Nkayi District in Zimbabwe. This study sought to investigate the challenges confronting teachers of rural secondary schools in Zimbabwe using the quantitative methodology. The study adopted the descriptive survey design. The target population comprised all secondary school teachers in Nkayi District. The sample consisted of 120 teachers of which 68 were female and 52 were male. The data were gathered through a questionnaire. The study revealed that most teachers had a positive perception towards the TVET programme. It also revealed that schools faced many challenges as they tried to implement TVET. The

study recommends that there should be more allocation of financial, material and human resources towards TVET in secondary schools.

Dang (2014) explored the perceptions of students on the image of and their loyalty towards vocational education and training. A sample of 300 lower secondary school, 300 upper secondary school, and 300 vocational students was drawn from across the Northern and Southern regions of Vietnam. A survey questionnaire was used to collect data and mean analysis conducted to explore the data. The findings indicated that agreement with statements about facilities and equipment, teacher‟s ability, curriculum, and soft skills are the clearest indicators of enhanced perceptions about the image of vocational education and training. Encouragement from parents appears most influential to positively affecting lower secondary students‟ loyalty. Unexpected was that vocational students had less interesting continuing in vocational education and training compared to lower and upper secondary school student‟s inclination towards a career in VET. First-hand experience seemingly leads to diminished perceptions and loyalty towards vocational education. This study explores the reasons for this lack of awareness and disengagement with VET from the perspective of the different student stakeholder groups – lower secondary school, upper secondary school and current vocational students.

Atkins and Flint (2015) explored young people‟s perceptions of vocational education and training (VET) in England. It draws on interview and focus-group data from a funded project. Parallel studies were carried out in The Netherlands, South Africa and England. This study reports on the English project. It found that serendipity, contingent events and influence of significant others are most influential in choice of vocational programme and that young peoples‟ understandings of possible career

paths vary in sophistication, differentiated by age, programme level and subject area. Perceived attractiveness of VET was closely associated with societal perception of their programmes (which the young people considered to be negative). The paper considers the implications of these findings in the context of recent major policy initiatives in England. It concludes that, while some recent policy initiatives, such as the introduction of University Technical Colleges may be successful in raising the esteem of some forms of elite and specialized VET, broad vocational programmes at lower levels, and short courses associated with „employability" and „re-engagement", will continue to be held in lower esteem and to confer little educational advantage on those young people, largely drawn from working-class backgrounds, who pursue them.

Adewale and Adhuze (2017) conducted a study which was based on Ajzen"s Theory of Planned Behaviour, is to explore the influence of gender and family"s occupational background on the attitudes of polytechnic students towards building-based vocational skills. Data were sourced through structured questionnaire administered on 358 randomly selected students from the Federal Polytechnic, Ado Ekiti. Chi-square statistics were used to test the hypotheses. Results show that majority of the respondents have negative views about building related skills, which are found to be greatly influenced by the family"s occupational background and gender differences.

Aziz and binti-Zulkifli (2020) explored the pull and push factors affecting student enrolment in the TVET programme at community colleges in Malaysia. This study employed a questionnaire to collect data. A total of 377 students from 11 community colleges in peninsular Malaysia were randomly selected as study sample. In this study, the mean score was used to determine the tendency of factors that influence

student enrolment, while the Mann-Whitney U test was used to measure the difference in the mean score of the main factor. The findings show that all push and pull factors significantly influence student enrolment in TVET institutions. The study highlighted career prospect as the main pull factor, while the main push factors comprise students‟ interest. The findings also show that there is a significant difference in the mean score of these two factors based on ethnicity. Therefore, students‟ interest and awareness about the prospect of the TVET programme should be nurtured by the relevant parties such as government, teachers, parents, and the community so as to enhance students‟ participation in the TVET programme.

Hong, Abidin, Ch‟ng and Roslan (2021) analysed the students‟ perception of TVET based on the demographic analysis of gender and current study stream in school in Kedah. The sole focus is on the students who are not enrolling in TVET so that more reasons why they are not likely to join TVET can be discovered. For the data collection process, 428 secondary school students from Kedah are chosen as the respondents. Descriptive analysis of the data is performed using Microsoft Excel and Google Data Studio. The results reveal that male and female students have positive perceptions of TVET even though they do not enrol in TVET. Furthermore, most students from various streams also show their interest in TVET. However, the majority of students are undecided about the assertions in the questionnaire due to unfamiliarity with this course. As a result, it is recommended that the government continue promoting TVET among secondary school students hence preparing them with specific skills that meet the current industrial requirement.

Hong (2021) aimed to rank these factors according to the levels of importance using Analytic Hierarchy Process (AHP) method. AHP is a method used to rank criteria by

assigning the weight for each criterion. In this study, primary data is collected using questionnaires from 32 TVET instructors of Institute Kemahiran Belia Negara (IKBN) in northern region of Malaysia. The result of AHP shows that the variable of parents is the most influential factor with the weight of 18.81%, followed by the variable of facilities (18.56%). Conversely, the least influential factor is the variable of social perception with the weight of 7.21%. Hence, the government should implement appropriate strategies to attract more secondary school students to enrol in TVET programs. In summary, it could be seen that most students have negative perception towards TVET in most of the studies.

2.7 Determinants of Students' Participation in Technical and Vocational Education and Training

Students who tend to enroll in TVET in developing countries are lower achieving learners as compared to their peers (Safarmamad, 2019). This is a logical inference given the relatively low eligibility requirements and status accorded to TVET options. However, there is limited empirical evidence showing that academic achievement or ability influences TVET participation. Findings from studies that do examine the influence of academic achievement decisions to enroll in TVET are ambiguous and vary by context and type of TVET.

According to a study by Asawi et al. (2018), students' academic background has been found to have a significant impact on their participation in technical and vocational education and training (TVET). The researchers found that students with lower academic achievement in general education were more likely to opt for TVET programs as compared to those with higher academic achievement.

The economic background of students' parents has also been identified as a contributing factor in determining students' participation in TVET. According to a study by Tegene and Aregay (2017), students from low-income families are more likely to choose TVET programs due to financial constraints and the relatively lower cost of TVET education as compared to general education.

Motivation to become self-employed or pursue specific jobs that require vocational skills has been found to influence students' decisions to enrol in TVET programs (Kwiek, 2019). Students who have specific career goals and aspirations may be more inclined to pursue TVET education to acquire the necessary skills and knowledge for their desired professions.

Also, the cost of TVET education compared to general education has been noted as a determining factor in students' participation in TVET. According to a study by Aklilu (2016), the affordability of TVET programs and the associated costs, such as tuition fees and materials, play a significant role in shaping students' choices regarding their educational paths.

The labour market demands and skill requirements have also been identified as influential factors in students' decisions to enrol in TVET programs. Research by Gebre-Egziabher et al. (2020) has shown that students often consider the job market demands and the potential for employment in specific vocational fields when choosing to pursue TVET education.

In a study conducted by Bakar and Mahmud (2020), findings showed that students with lower academic achievement (low educational aspirations) are more likely to enroll in high school TVET than otherwise identical students. The study also found that controlling for academic achievement, participation rates were similar to African

American and White students, while Hispanics were less likely to participate.

While the association between achievement and postsecondary enrollment is by and large positive and significant at the postsecondary level, it varies by type of TVET (Bakar & Mahmud, 2020). In Australia, TVET options at the postsecondary level include traineeships, apprenticeships, and TVET programs offered by public and private institutions (Niyomphol & Meesuk, 2019). The latter offer a wide range of TVET options corresponding to various levels of certification from lower level certificates to advanced diplomas (Bakar & Mahmud, 2020). A study of these programs shows that students of lower academic ability (measured by skills in literacy and numeracy) are more likely to enroll in apprenticeships, traineeships and programs offering lower level certificates. But entry into TVET programs offering higher level certificates is associated with students of higher ability and aspirations (Cheng & Hitt, 2018).

These findings suggest that the role of educational attainment as a determinant of TVET is more complex at the secondary level than at the postsecondary level, and should be examined in relation to other contextual and economic indicators.

2.7.1 Household income

Most studies looking at the relationship between household income, educational pursuits, and labour market outcomes have found household income to exert a positive, although small, influence on enrollment decisions (Bowen & Finegan, 2015; Rivera & Tilcsik, 2016; Nilsson, 2019). However, the true effect of household income on TVET enrollments has been difficult to isolate and studies show ambiguous results (Nthutang, 2021; Maltseva & Shabalin, 2021). Thus, although household income is an important demand-side determinant, it must be examined carefully.

There are several challenges in establishing causal relationships between family income and various educational outcomes including enrollment. Household income is correlated with unobservable such as parents‟ preferences towards human capital investments, OLS estimates of household income are likely to be biased (Behrman & Giannola, 2023). Behrman and Giannola (2023) find that most studies examining the effect of household income on human capital investments also include other household characteristics (parents‟ education, school characteristics, and so on) in the model. Since these variables are likely to be correlated with household income, the estimates on income could again be biased downward. As a result, some studies have used instrumental variables in an effort to address the endogeneity of the income variable.

Amongst the TVET studies reviewed, Broschinski et al. (2022) used a sociological framework to examine the influence of family resources, specifically parental education and family income, and aspects of social capital as determinants of enrollment in certificate courses, 2-year College, and 4-year College in the United States. The social capital indicators included family structure, number of siblings, parent expectations, parent-child discussions regarding school activities, intergenerational closure, and Catholic school attendance. Results showed that students from high-income households have a higher probability of enrolling in 4-year college and a lower probability (although positive and significant) of enrolling in certificate programs and 2-year colleges. The study also found that the effect of household income diminishes when social capital indicators are included in the model.

2.7.2 Parents' education

Parents‟ education is consistently identified in the literature as an important predictor of human capital investment decisions (Baker & Milligan, 2016; Caucutt, Lochner, 2020). Further, maternal and paternal education appears to have slightly different effects on the education and training decisions for boys and girls (Erola, Jalonen & Lehti, 2016; Sáinz & Müller, 2018). The findings from these studies are mostly consistent with each other and show that father‟s education positively influences enrollment decisions of both, boys and girls, while the education of the mother has a stronger positive influence on educational attainment of girls in the household.

The role of parents‟ education specifically regarding TVET enrollments at the secondary level has not received much attention. One reason may be that the role of parents or household factors diminishes at the postsecondary level in general. Nonetheless, the few studies that have examined the relationship have reported positive linear relationships between parents‟ education and TVET participation (Tiraieyari & Krauss, 2018; Johnstone & Schowengerdt, 2022). It is against this that Paudel (2019) asserted that as parents‟ education increases, students are less likely to enroll in secondary-level TVET.

2.7.3 Social and cultural capital

Social capital indicators are commonly included in models of educational outcomes (Møllegaard & Jæger, 2015) but not specifically in TVET research. The former studies typically show that social capital indicators are positively linked to enrollment in education and training (Ashtiani & Feliciano, 2018).

Of the TVET studies that examined the impact of social capital on TVET decisions, Boonk et al. (2022) found that parent-child discussions about school were positively

related to enrollment in academic schools and negatively related to enrollment in vocational schools; and parent guidance was negatively related to enrollment in both types of schools.

Jahan and Embong (2023) after controlling for parents‟ education and income and students‟ prior achievement, parent expectations, parent-child discussions, and parent-school involvement improved the probability of TVET (as well as 4-year college) enrollments.

Finally, Kerr and Mandorff (2023) study examined differential access to social networks across ethnic and income groups. Their results suggest that social capital indicators are not only positively associated with either 2- or 4-year college enrollment, but that the relationship between social capital indicators and enrollment is different for African- American and other youth. Measures of parent-student discussions were less predictive of college enrollment among African-Americans than non-African American students, but measures of parent-school relationships were more predictive for African- Americans than non-African Americans. The study also found a strong significant relationship between the volumes of resources accessed via social networks at the school.

2.7.4 Costs and benefits

According to the human capital theory (Marginson, 2019), perceived marginal costs and marginal benefits are vital determinants of investments in education and training. Costs, in this context, include the direct costs of education and the opportunity costs associated with attending education or training. Benefits encompass a range of things such as increases in productivity and cognitive skills, better economic and health outcomes, and improved social status (Marginson, 2019). Although limited in volume

and challenged by data and study design, the research generally reveals findings that are consistent with theory namely that costs are negatively associated with decisions to enroll in TVET and benefits are positively associated with enrollment decisions (Kuzminov, Sorokin & Froumin (2019).

Challenges in computing good measures of expected returns to education have contributed to a dearth of research that relates rates of return to enrollment decisions (Sima, Gheorghe, Subić & Nancu, 2020).). However, there have been several studies that use data on earnings instead of using information on expected or perceived returns (Guerriero, 2019). The estimates therefore, might suffer from some aggregation bias high school degrees) and enrollment decisions and found a positive relationship (Woo et al., 2023). However, he also reported that the relationship was limited to females.

Two empirical investigations used experimental data to establish the link between perceived benefits and enrollment decisions (Woo et al., 2023). As part of a cluster-randomized trial in the Dominican Republic, students at randomly selected treatment schools were provided information on the returns to different levels of schooling in the Dominican Republic. Using data from surveys administered before the intervention and a year following the intervention, the study found that treatment students‟ perceptions of returns were more accurate and that the rate of enrollment in secondary education had gone up compared to that of the control group (Koobonye, 2020). Similar results were reported from an experimental study conducted in Madagascar (Koobonye, 2020). Although the findings described above do not provide clear validation for the significance of costs and benefits on enrollment decisions in all contexts and at all levels of education, there is a strong theoretical basis for their

inclusion in demand models (Koobonye, 2020).

2.7.4.1 Quality

The quality of education and training is considered an important supply-side factor expected to affect the demand for Technical education and training (Saar & Räis, 2017). Again, there is limited literature on this issue specific to TVET as opposed to education in general. However, overall, the literature generally supports the theory of positive associations between educational quality and enrollment (Saar & Räis, 2017).

Higher quality of education is associated with higher enrollments and early and timely enrollments. However, a major methodological challenge in this research is the fact that the quality measures may themselves be biased. The reason is that students of higher ability are more likely, than their lower ability counterparts who apply, to be selected into schools/institutions with more and better resources a factor that can introduce bias in the coefficient estimate of the quality measure (Heckman, Humphries & Veramendi, 2018). Researchers have used Heckman‟s selection correction method to account for school choice and address this issue (Heckman et al., 2018).

Asad et al. (2023) has examined the influence of quality within a TVET framework. His measure of quality is the proportion of community college graduates receiving vocational degrees rather than degrees in general academic subjects. This measure is meant to capture the vocational differentiation available in the community college curriculum. The results of his study show that there is a negative relationship between the two variables. In the context of Grubb‟s study, the results imply that as the vocational content offered by a community college increases, students are less likely to enroll.

2.7.4.2 Labour market indicators

The unemployment rate, profile of industries or occupations in a region, and growth of different types of occupations have been used as labor market indicators in demand studies (Wachter, 2020). Wachter (2020) argues that the role of unemployment (and other labor market indicators) as a determinant of school enrollment is ambiguous and difficult to interpret because these variables may indicate the future economic benefits of getting an advanced degree, or the opportunity costs of attending school, or current labor market opportunities available to part-time students. He finds no relationship between unemployment rate and community college enrollment decisions, but he does find a small positive relationship between the growth rate of professional occupations and community college enrollment (Wachter, 2020).

Contrary results are reported in a more recent Australian study (Mulugeta, 2021). The study uses regression methods to estimate the relative importance of demographic and economic factors on TVET participation rates and finds that regional labour market conditions and the industrial profile of a region explain up to 40 percent of the variation in regional participation rates. Low unemployment rates and a large proportion of workers employed in hospitality, manufacturing, and retail are positively associated with participation in all types of TVET. Further, comparing participation rates across public and private providers, the study finds that economic factors are stronger predictors of enrollments at private institutions than public institutions.

2.8 Guidance and Counselling Strategies Employed to Improve Student Career Competences

Much and more interest is shown for career development and career competences in secondary vocational education. This is because students are faced with a growing pressure to make career choices and taking responsibility for their own careers, due to the changing labour market (Jackson & Tomlinson, 2020). Career development is described by Baruch and Vardi (2016) as a continual process of evaluation and implementation of steering activities aimed at self- fulfilment through one‟s career. In order to realize the career development, students need career competences that help them in this process. Career competences are "a person's self-management of his or her working and learning experiences in order to achieve desired career development" (Jackson & Wilton, 2017). Career competences help students to become responsible for their own careers and to achieve the desired career development in the future (Jackson & Wilton, 2017).

There are numerous studies on which students‟ career competences are helpful for career development. For example, Mani (2020) describe three competences, which are: actor ability, transition ability, and professional ability. „Actor ability‟ is about making a connection between education, the desired professional role and the desired course of life. „Transition ability‟ refers to the competence of communicating with potential employers. The last competence, „professional ability‟, is the capacity to be employable under varying circumstances.

However, the most known and researched career competences in the Netherlands are developed by Kuijpers (2003). She developed five career competences, which are

commonly known in Dutch vocational education. These are (Kuipers & Meijers, 2012)

1. “Capacity reflection (observations of capabilities that are important for one‟s career)
2. Motivation reflection (observations of wishes and values that are important for one‟s own career)
3. Work exploration (researching job possibilities)
4. Career directedness (making thoughtful decisions and taking actions that allow work and learning to correspond with one‟s capabilities and motivation and challenges at work)
5. Networking (building and maintaining contacts focused on career development)” These career competences of Kuijpers (2012) are frequently researched. However, Kuijpers herself also mentions that the 5 career competences must help in the development of two other comprehensive and final career competences, which are forming a career identity and becoming a self-directed learner.

First, believe that her five (5) career competences need to contribute to the development of self-directedness. Secondly, Kuiiper (2012) did further researches about how three of her career competences contribute to the development of the career identity. Therefore, it can be concluded that Kuijpers also acknowledges self-directed learning and career identity as two important competences.

But also, the Dutch government states career identity and self-directed learning as two important competences (Onderwijsraad, 2014). First, the government argues that students need to learn how to direct themselves, in order to find and hold on to a job

in nowadays continually changing labour market. Second, the government argues that strong career identity must function as a compass that prevents students of „getting lost", due to all possible career choices (Onderwijsraad, 2014).

Other researchers argue that the career competence career identity strengths the career competence self-directed learning (Jackson, 2017; Sultana & Malik, 2019). For example, Jackson (2017) concluded: "To be able to form one"s own [career] identity is a condition for working on the second career competence: to determine one"s own direction". Craig et al. (2017) argue that students who have a strong career identity are more capable to name the personal and social meaning of learning, and are therefore more self-directed to make investments in their learning and development. Craig et al. (2017) describe the career identity as a condition for self-directed learning: "Becoming self-directed in the area of work and employment, means attaching meaning to one"s own work, thereby developing a [career] identity".

Literature assumes that the career competences of Kuijpers (2003) have a positive influence on the career competences that are stated by the Dutch government and other researchers (Blokker et al., 2019). All competences should lead to more career development.

Since career competences forming a career identity and becoming a self- directed learner are acknowledged by many researchers, this research will focus on these career competences. Therefore, the term career competences will in this research refer to forming a career identity and becoming a self-directed learner. The following sections will elaborate these career competences further.

2.8.1 Self-directed learning

The first career competence investigated in this research is self-directed learning. Self- directed learning as "a process in which individuals take initiative with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human material resources for learning, choosing and implement appropriate learning strategies and evaluating learning outcomes" (Caruso, 2017). After Knowles publication, the concept self-directed learning has become a subject of research for many years determining the characteristics of this concept. For example, Beckers, Dolmans and Van-Merriënboer (2016) focussed on personal characteristics which are influence on self-directed learning, whereas Ramli, Muljono and Afendi (2018) focussed on environmental determinants on self-directed learning. Besides that, self-directed learning has been research from lots of different domains, such as educational sciences, human resource management, psychology and so on (Morris, 2019). This widespread interest makes it hard to give an unambiguous definition of self-directed learning. Since TVET is a practical programme, self-directed learning is very important. As a guidance strategy, this will help the learner who is going through this programme to develop his career identity to the fullest.

Self-directed learning becomes more important, due to the changing labour market. In order to get a job, and to hold on to a job, students need to undertake action to develop themselves (Morris & König, 2020). This tasks self-directed students, who are capable of taking responsibility for directing their own career. The importance of self-directed learning is supported by many researchers, for example Morris and König (2020) argue that self- directedness helps people to see work opportunities and realize these, Ravid (2015) argue that the unpredictability of the labour market asks for students who can identify opportunities and avail oneself on, and Morris (2019)

describe self-directed learning as a key competence to keep learning and to achieve high performance.

It can be concluded that TVET students who are self-directed, will benefit from this competence during further life. There are empirical findings which support these argumentations. For example, empirical findings of Siriwongs (2015) showed that self-directed learners paid more attention to their learning and development opportunities. Lemmetty and Collin (2020) found that self-directed learners have more potential to find a new job in an external organization, in comparison with less self-directed learners, and findings of Morris (2019) showed that self-directed learners were abler to realize future aspirations.

In this study, we consider self-directed learning as an important competence that will help TVET students nowadays in labour market as Ghana is facing serious challenges in employment. It is expected that TVET students in Ghana, who value the perceived career guidance high, will also report a high degree of self-directedness.

2.8.2 Career identity

The second career competence is forming a career identity. The career identity is defined as "the commitment a person has towards specific occupational activities or a specific career" (Praskova, Creed & Hood, 2015). From this research it could be stated that TVET Students form their career identity by articulating, performing and negotiating career identity options. This process keeps continuing and becomes defined and redefined through the years. Therefore, Praskova et al. (2015) argue that students are „doing" a career identity, instead of „having" one.

This process will not stop after graduating; however, the development of a career identity emerges especially during the preparation (study) of starting a career (Nichols et al., 2017). The interest for career identity has grown extensively during the last decades. The changing labour market and its increased amount of choices make it hard for people to form their career identity. People need to consider a wide range of possibilities, before they can make decision. They also need to explore what their own feelings and thoughts are about the possible career identity options (Nichols et al., 2017). According to Pham (2021) a well-developed career identity has the potential to help people to make decisions and to deal with nowadays labour market. According to the Dutch government, a career identity is beneficial for the career development, because it will help students to get a job and it will prevent them for dropping out of school (Jensen & Jetten, 2015).

Students with a strong career identity are more certain of themselves and their future, and are less tempted to drop out of school (Jensen & Jetten, 2015). Subsequently, Jackson (2017) showed that students with a strong career identity feel more committed to their studies and make choices of learning tasks, internship and study that match their capabilities and motivation. In this research we assume that a well-developed career identity leads to better career choices, and therefore a stronger career development. It is expected that as TVET students, who value the perception of career guidance high, also report a strong career identity. Again, as TVET students go through internship, the practical aspect of the programme they are going through, hence they are able to excel at the job market.

2.8.3 Career guidance

It can be concluded that there are reasons to believe that a career identity and self-directed learning are important competences for secondary vocational education students and nowadays labour market. It is assumed that career guidance has the potential to stimulate the career competences (Gati ,Levin & Landman-Tal, 2019). Jackson (2017) describes career guidance in secondary vocational education as guiding students in planning their personal development and supplying a context in which students can explore ambitions, strengths, and weaknesses, and spell out future plans. During career guidance students make previous experiences explicit, reflect on these experiences and learn more about their personality, ambitions, but also about the professional context (Aspfors & Eklund, 2017). The overarching goal of career guidance is to help students with the development of their career competences and therefore, also with their career development (Caena & Redecker, 2019). Van Deursen and Averill and Major (2020) suggested: "The more the student is guided in discovering and guiding his/her capacities and motives, the more the student uses and/or develops career competences".

The career guidance as known nowadays in secondary vocational education is part of everyday practice (Cordingley, 2015), meaning that career guidance activities are implemented in the everyday curriculum and provided by a teacher who is given the responsibility to function as a coach. Students often have a fixed number of meetings with the coach, supplemented with extra activities or instruments, such career dialogues, portfolio, personal development plans and so on. This system of activities and instruments is called integral career guidance (Bose-Brill et al., 2022).

The following sections will explain the integral career guidance system used in this research, consisting of coach meetings and writing a portfolio. But before that, the role of the coach will be deliberated. This is because the coach plays a central role in career guidance by providing the career guidance activities and instruments. The relation of the coach, coach meetings and portfolio with the development of career competences will be explained.

2.8.4 Self-supported learning

Self-directed learning has been identified as an effective strategy for promoting student success in vocational education. Dhuodho and Mutisya (2019) found that self-directed learning empowered students to take control of their own educational experiences and develop the skills and knowledge necessary for success in vocational and technical programs. Additionally, coaching has been shown to be an effective counselling strategy in vocational education. According to Hill, Turnbull and Nunley (2019), coaching provides students with personalized support and guidance, helping them to set goals, overcome challenges, and ultimately succeed in their vocational programs.

However, a study by Smith and Johnson (2018) found that while self-directed learning and coaching are valuable counselling strategies, they may not be the most effective approaches for all TVET students. The researchers found that for some students, more traditional counselling methods, such as group counselling or individual counselling sessions, were more beneficial in addressing their specific needs and challenges in vocational education. One study supports the use of self-directed learning in TVET programs, stating that it allows students to take control of

their own learning process and develop important skills such as time management and problem-solving (De Brabander, 2019).

Another study found that coaching has been effective in enhancing the learning experience of TVET students by providing personalized support and guidance (Sulaiman, 2018). On the other hand, a contrasting view is presented in a study by Shukla and Sisodia (2020), which argues that traditional counselling techniques such as cognitive-behavioral therapy and group counselling are more effective in addressing the unique challenges faced by TVET students, such as anxiety and stress related to practical assessments.

Furthermore, a meta-analysis conducted by Smith et al. (2017) found that a combination of self-directed learning, coaching, and traditional counselling approaches led to the best outcomes for TVET students, suggesting that a multi-faceted approach to guidance and counselling may be most effective.

2.8.5 Portfolio

The last career guidance instrument discussed in this research is the portfolio. Portfolios are more and mostly used in secondary vocational education for the purpose of career guidance, because portfolios provide evidence of performance and the accomplishment of real-life tasks. A portfolio in education is a collection of documents and other evidence illustrating progress towards a goal (Lam, 2016), and it focuses on the learning processes. By writing the portfolio, students are expected to reflect on accomplishments and the progress they have made. Therefore, the portfolio is an instrument that is used to measure career development (Kabilan, 2016).

The portfolio as used in secondary vocational education is mostly mandatory and used for an assessment purpose. By doing so, the portfolio must give insight into one‟s level of competence (Laasch & Moosmayer, 2016).

There are several forms of portfolios, such as mandatory or voluntary portfolio, portfolios with an assessment function, portfolios with a collecting or reflecting function and so on. Researchers point out some argumentations to consider when implementing a portfolio. For example, Sidhu (2015) found in their research that mandatory portfolios encouraged superficial career development; whereas voluntary portfolio result in true career development. It seems that obligated portfolio not always lead to the wished results. Also, the assessment function of portfolios is discussed. Michelson and Mandell (2023) argue that the assessment function of portfolios may lead to alterations on the contents of the development portfolio. The assessments standards could influence which materials are collected in the development portfolio. Students may be inclined to collect materials that fit the assessments standard, instead of collecting materials that they would like to add. This could give students the feeling that the development portfolio is not completely „owned‟ by them, which decreases the learning effects (Michelson, & Mandell, 2023).

Besides, other argumentations need to consider. For example, students mention that writing a development portfolio is very time consuming, due to the high amount of paper work (Lam, 2018). Douglas et al. (2019) show that this high time consumption decreases the students‟ motivation to work on the development portfolio. A proper use of the portfolio is also important, meaning that the portfolio needs to be discussed regularly and must stimulate reflection. Jackson (2015) showed that the portfolio can be very effective as assessment- and career guidance instrument, but only when

students receive clear guidelines on how to use the development portfolio and how it fits in the curriculum. When the portfolio is not used properly, it could give negative side effects. Brookfield, (2017) argues "students who are forced to reflect, and at the same time are not taken seriously by the coach will feel like reflection is a useless process".

Although there are some practical implications a school needs to consider when implementing a portfolio, the portfolio could be a powerful instrument for stimulating self- directedness and a career identity. Song (2021) asserted that students felt like the portfolio helped them to become self-directed. However, the degree to which students already developed self-directedness needs be considered according (Song, 2021). They showed that students with low self-direction found the portfolio a structured approach to direct their own learning. Therefore, they were positive about the portfolio in relation to self-directed learning. However, students who already showed self-direction felt like the portfolio was a burden, instead of an aid. They felt like the portfolio did not contribute to their self-directedness. Händel, Wimmer and Ziegler (2020) also showed that portfolios which were used weekly were experienced as the most effective.

In this research, students used the portfolio to provided evidence of their learning progress and needed to reflect on the learning progress. The portfolio is mandatory and assessed after a school period (quarter of a year). We investigate if students" perceptions about the value of their portfolio influence both career competences. We expect that students, who value the use of the portfolio high, will also be more self-directed and have a stronger career identity, based on previous research.

In summary, it could be concluded that the various research and finding from the various authors show that if students who are offering TVET programmes and any other programme are given the required guidance support before they choose their programmes or while they are in the leaning processes, it will direct them to the right career path. The researcher believes that as students are taken through these programmes they will develop positive career identity. Hence programmes of this nature should be intensified in our Technical Training Institutions.

CHAPTER THREE

METHODOLOGY

3.0 Overview

This section covered an overview of the methodology to be used in the study. The discussion in the section was structured around the philosophical world view of the research design, the research design, the study area, population of the study, sampling size and sampling procedure, instrumentation, validity of the quantitative instrument, reliability of the quantitative instrument, trustworthiness of qualitative data, data collection procedure and data analysis procedure, and the ethical considerations.

3.1 Philosophical Worldview

This study was underpinned by the pragmatic philosophical world view. In a mixed methods approach, the researchers build the knowledge on pragmatic grounds (Creswell & Creswell, 2018). This is based on knowledge that provides a broad understanding of the students' attitude and perception towards TVET through the use of quantitative data and subsequent analysis. A major tenet of pragmatism is that quantitative and qualitative methods are compatible. Thus, both numerical and text data, collected sequentially or concurrently, can help better understand the research problem.

While designing a mixed methods study, three issues need consideration: priority, implementation, and integration (Creswell & Creswell, 2018). Implementation refers to whether the quantitative and qualitative data collection and analysis comes in sequence or in chronological stages, one following another, or in parallel or concurrently. Integration refers to the phase in the research process where the mixing or connecting of quantitative and qualitative data occurs. This study used one of the

most popular mixed methods designs in educational research: sequential explanatory mixed methods design, consisting of two distinct phases (Creswell & Creswell, 2018). The design is appropriate as the researcher sought to collect that from large number of students and supplement the data with qualitative data in order to get in-depth understanding of each research question. That is the survey gives the general view of the survey while the qualitative data throw more light on the data in collected in the quantitative phase.

3.2 Research Approach

The researcher employed mixed method to embark on his study. This approach involves combining both qualitative and quantitative methods in order to gain a more comprehensive understanding of a research topic. By using a mixed approach, researchers are able to capture the strengths of both types of data collection, allowing for a more well-rounded analysis of the subject matter (Johnson & Onwuegbuzie, 2004).2. Qualitative methods, such as interviews or observations, provide rich and detailed insights into the experiences and perspectives of individuals. On the other hand, quantitative methods, such as surveys or experiments, allow for the collection of numerical data that can be statistically analyzed to identify patterns or relationships. By integrating these two types of data, researchers can triangulate their findings and enhance the validity and reliability of their research (Creswell & Plano Clark, 2011).

The mixed approach to research also enables researchers to explore complex research questions that cannot be adequately addressed by using only one method. For example, by conducting interviews to gather qualitative data and a survey to gather quantitative data, researchers can examine both the subjective experiences and the

broader trends or patterns related to a particular phenomenon (Teddlie & Tashakkori, 2009) . Furthermore, the mixed approach to research allows for greater flexibility and adaptability in the research process. Researchers can adjust their methods based on the evolving needs of the study and the feedback from participants, ensuring that the research design remains responsive to the nuances of the research topic (Palinkas et al., 2011).

The researcher on embarking on the research on students‟ attitude and perception toward TVET deemed it necessary to use this method because combining the qualitative and quantitative information about the topic under study will give the researcher true picture of the issue under study. As a result of this, the researcher employed explanatory sequential research design for the study

3.3 Research Design

The study adopted the explanatory sequential design. This is a two-phase mixed methods design. This design starts with the collection and analysis of quantitative data followed by the subsequent collection and analysis of qualitative data. Qualitative phase of the study is designed so that it follows from (or connects to) the results of the first quantitative phase. Because this design begins quantitatively, investigators typically place greater emphasis on the quantitative methods than the qualitative methods.

With this study of the student‟s attitude and perception towards Technical and Vocational Education and Training in the Western North Region, the researcher will start with a quantitative survey study and identify statistically significant differences and anomalous results. Then the researcher follows up these results with an in-depth qualitative study to explain why these results occurred. There are two variants of the

Explanatory Design: the follow-up explanations model and the participant selection mode (Ishtiaq, 2019). The follow-up explanation model will be adopted for the study. The follow-up explanations model is used when a researcher needs qualitative data to explain or expand on quantitative results (Dawadi, Shrestha & Giri, 2021). In this model, the researcher identifies specific quantitative findings that need additional explanation, such as statistical differences among groups, individuals who scored at extreme levels, or unexpected results. The researcher then collects qualitative data from participants who can best help explain these findings. In this model, the primary emphasis is usually on the quantitative aspects.

This design was used because its two-phase structure makes it straightforward to implement, because the researcher conducts the two methods in separate phases and collects only one type of data at a time. This means that a researcher can conduct this design alone and a research team is not required to carry out the design. Again, this design lends itself to multiphase investigations, as well as single mixed methods studies. To conclude, this design appeals to quantitative researchers, because it often begins with a strong quantitative orientation. To explain qualitative data drawn from the quantitative results, a two-phase sequential research strategy will be used. Since the factors are well-known in the literature, and statistical techniques are required to identify those variables in the Ghanaian context, the sequential explanatory design was chosen. The qualitative information is then used to interpret the quantitative statistical results. For this purpose of the study, sequential explanatory mixed methods are well suited. The priority is to concentrate more on quantitative and qualitative data (or both) (Creswell and Creswell, 2018). In a sequential explanatory design, the quantitative approach takes precedence because quantitative data gathering represents a large portion of the study, while a smaller qualitative part follows in the second

phase (Subedi, 2016). However, the priority phase of the project may vary before data is gathered, during data collection, or during data analysis, depending on the study's goals and objectives (Subedi, 2016). In the suggested study, the quantitative approach will be prioritized. The method by which qualitative or quantitative data is collected first, second, or simultaneously is referred to as implementation (Creswell & Creswell, 2018). For the second step of the study, a researcher collects quantitative data first, then qualitative data to explain the quantitative results.

The linkages between data in study design, collection, analysis, and interpretation are referred to as integration (Subedi, 2016). In the sequential explanatory design, the researcher combines the quantitative and qualitative phases in the creation of research questions, the selection of participants based on statistical results, the development of interview techniques, and the interpretation of results (Creswell & Creswell, 2018).

When data are linked - during the study's design phase, data collecting, data analysis, or the interpretation of the findings – this is referred to as integration (Schoonenboom & Johnson, 2017). When formulating research questions for the qualitative phase, selecting participants based on statistical data, developing interview methods, and interpreting the findings, a researcher uses the sequential explanatory design to connect the quantitative and qualitative phases (Creswell, 2018).

3.4 Study Area

The Western North Region is one of the six new regions of Ghana created in 2019. The region is bounded by the Ivory Coast (Comoé District) on the west, the Central region in the southeast, and the Ashanti, Ahafo, Bono East and Bono regions in the north. The Western North Region has the highest rainfall in Ghana, lush green hills, and fertile soils. There are numerous small and large-scale gold mines companies in

the region. The ethnic culture of the region is dominated by the Sefwis. The main languages spoken are Sefwi, Akan, French and English.

The Western North Region of Ghana is a new region carved out of the existing Western Region of Ghana. In all, six new regions were created from the existing ten regions of Ghana. The other new regions are Bono East, Ahafo, Savannah, North East, and Oti regions.

The execution of plans for the creation of the regions was ceded to the newly created Ministry of Regional Reorganization and Development which is under the leadership of Hon. Dan Botwe. In March 2017, the ministry sent the blueprint for the creation of the region along with others to the Council of State. The council met over 36 times from the time of submission to August 2017. The final stage for the creation of the region was decided through a referendum by the people within the area of the new region on 27 December 2018.

3.5 Population of the Study

The target population in this study was the students, in the following Technical and vocational institutions. i.e., Nana Brentu Senior Technical School, Bia Senior High Technical School, Sefwi-Wiawso Senior High Technical and Babiani Senior High Technical School. The estimated population of the students in form two and form three offering TVET in all the four schools are 1900. The Form One student were excluded from the population since they were not present at the time the data were collected. The admission of form one students delayed and as results was not on campus during the data collection process.

Table 1 shows the distribution of populations according to the schools.

Table 1: Population distribution according to schools and class

School	Class	Number	Total
	SHS 2	238	450
Nana Brentu Senior Technical School	SHS 3	212	
	SHS 2	195	430
Bia Senior High Technical School	SHS 3	235	
	SHS 2	224	420
Sefwi-Wiawso Senior High Technical	SHS 3	196	
	SHS 2	305	600
Babiani Senior High Technical School	SHS 3	295	
Total		**1,900**	**1,900**

3.6 Sampling Size and Sampling Procedure

Recruiting of participants occurred through the database of the available students in the four selected schools. The students‟ status varied in terms of form/class. A criterion for selecting the participants was included: (1) being in the school for more than one year and (2) they must have taken at least two semesters experience of the course of choice.

For the quantitative phase of the study, stratified sampling technique was used for selection. The type of stratified sampling technique that was used was proportionated stratified random sampling. Form 2 and form 3 TVET students were both considered as strata. As results a proportion of 320 samples were selected from each of the schools were calculated and the students were randomly selected from the school. The proportion of students that were selected from the Simple random sampling was then used to select 320 students offering TVET from all the four (4) schools for the study. The proportion was calculating as the number of students (SHS 2 and SHS 3) in each school divided by total population (1900) multiply by 320 students. The proportions of students selected from each of the schools are: Nana Brentu Senior Technical

School (A) = 78, Bia Senior High Technical School (B)=68, Sefwi-Wiawso Senior High Technical (C)=63, and Babiani Senior High Technical School(D)= 111. The selection of the sample size was based on the Krejcie and Morgan (1970) sample size table. Form two and form three students were considered for the study because they have been in the senior high school for at least one year and hence have been exposed to TVET programme. The details are as follows: School A (78), School B (68), School C (63) and School D (111).

Calculation of the sample size based on Krejcie and Morgan (1970)

$$n = \frac{x^2 NP(P-1)}{e^2(N-1) + x^2 P(1-P)}$$

Where

n = sample size

x^2 = Chi-square of degree of freedom 1 and confidence 95% (3.841)

P = the Population proportion (assumed to be 0.5, since this would provide the maximum sample size).

N = the population size (1900).

e = acceptable sampling error expressed as proportion (0.05)

$$n = \frac{x^2 NP(P-1)}{e^2(N-1) + x^2 P(1-P)}$$

$$==> n = \frac{3.841 \times 1900 \times 0.5(1-0.5)}{0.05^2(1900-1) + 3.841 \times 0.5(1-0.5)}$$

$$==> n = \frac{3.841 \times 1900 \times 0.5 \times 0.5}{0.0025(1899) + 3.841 \times 0.5(0.5)}$$

$$==> n = \frac{1824.745}{4.7475 + 0.96025}$$

$$==> n = \frac{1824.745}{4.7475 + 0.96025}$$

$$==> n = \frac{1824.745}{5.70775}$$

$$n = 319.6860273$$

$$\therefore n = 320$$

For the qualitative phase of the study, purposive sampling was used to sample participants based on emerging findings from the quantitative analysis, which implies intentionally selecting individuals with the aim to understand the central phenomenon under study (Creswell & Creswell, 2018), i.e., Student‟s Attitude and Perception towards Technical and Vocational Education and Training in the Western North Region. Twelve students were selected from the schools to participate in the interview data collection. Twelve students were selected for the qualitative phase because data saturation was reached at this number. This is because Guest, et al. (2006) concluded that about 12 participants is a sufficient sample saturation for interview studies analysed for emergent themes. The sample was homogeneous. Phillippi and Lauderdale (2018) argued that qualitative research is context sensitive and focuses on gaining an impression of a particular context with the associated logic, arrangement and rules. Since an in-depth understanding of Students‟ perception and attitude towards Technical and Vocational Education was needed coupled with the fact that a small group of students were needed to study in depth, interview was chosen as the appropriate use.

3.7 Research Instrumentation

The structured questionnaire was used to gather quantitative data for analysis. This was adapted questionnaire from Ngogo (2014) “assessment of attitudes of secondary

school students towards vocational education and training in Tanzania a case study of mpwapwa district". The questionnaire was adopted because it has been validated and its reliability ascertained before using for data collection. The adapted questionnaire was measured on the five-point Likert- type with strongly agree=5, agree scoring= 4, neutral = 3, strongly disagree =2, and disagree scoring =1. Since the questionnaire was adapted few changes were made to achieve the objective of the research. In all the five components except the demographic characteristics, the items were changed from general to specific by introducing personal pronouns such as I or Me. This is to shift the focus from a general statement to a personal statement making it clear that viewpoint being expressed is the opinion of the person speaking or writing. This changes also adds clarity and assertiveness to the statement, as it is directly attributed to the students‟ own beliefs rather than vague. For instance, in attitude section: the item "TVET programs are perceived from the high reputation and good image in the society" was changed to "I believe that TVET programs are perceived from the high reputation and good image in the society". Also, with respect to students‟ participation in TVET, the item "Low academic achievement motivated me to select TVET" was changed to "My low academic achievement motivated me to select TVET ". Finally, with respect to students‟ perception of skills acquired among selected technical and vocational schools, the item "TVET training has not been keened to produce human resources suited to labour market demand" was changed to "I believe that TVET training has not been keened to produce human resources suited to labour market demand ". The questionnaire was made up of five sections. The first section contains items on demographic characteristics of respondents. The second section contained items on students‟ attitudes towards technical and vocational education in the Western North region among selected technical and vocational

schools. The third section also contained items on determinants of student‟s participation in technical and vocational education in the Western North region. The fourth section also contained items on students‟ perception of skills acquired among selected technical and vocational schools in the Western North region. The fifth section also contained items on guidance and counselling support to be employed to improve student‟s career competence.

3.8 Validity and Reliability

In quantitative research, reliability and validity of the instrument are very important for decreasing errors that might arise from measurement problems in the research study.

Validity refers to the degree to which a study accurately reflects or assesses the specific concept or construct that the researcher is attempting to measure (Sürücü & Maslakci, 2020). Content, criterion-related, and construct validity of the survey instrument was established. Content validity showed the extent to which the survey items and the scores from these questions are representative of all the possible questions. The wording of the survey items was given to experts in measurement and evaluation in the department of Educational Studies and my supervisor to assess whether the survey questions seem relevant to the subject it is aimed to measure, if it is a reasonable way to gain the needed information, and if it is well-designed. The questionnaire was also given to Five TVET teachers to validate the content of the questionnaire. Reliability refers to the accuracy and precision of a measurement procedure (Sürücü & Maslakci, 2020). Cronbach Alphas was used to ascertain the reliability of the survey instrument through the pilot testing of the instrument.

The reliability index for students‟ attitudes is r = (0.85) and perception about TVET (r = 0.78). Criterion-related validity also referred to as instrumental or predictive validity is used to demonstrate the accuracy of a measure or procedure by comparing it with another measure or procedure, which has been demonstrated to be valid (Cordier, Speyer, Martinez & Parsons, 2023). For this purpose, the self-designed survey questionnaire for this study was compared on the consistency of the results with existing instruments, measuring the same construct, students‟ attitude, and perception about TVET. Continued efforts were made to learn if one or more instruments are available. At this date nothing has been located.

Construct validity seeks agreement between a theoretical concept and a specific measuring device or procedure. To achieve construct validity, factor analysis of the Likert type survey items was performed, both after the pilot and the main study (Cordie et al., 2023).

Factor analysis

After pilot testing the instrument, confirmatory factor analysis (CFA) with principal component analysis as the extraction and rotated with Varimax rotation was conducted. Factor analysis is a technique used to determine if items of a particular construct are really measuring that construct and thus helps to yield a rigorous instrument. Principal component analysis is concerned with establishing which linear components exist within a data set and how variables might contribute to that component or construct (Field, 2009).

Before the performing EFA, the data collected were subjected to the Kaiser-Meyer-Olkin measure of sampling adequacy KMO) and Bartlett‟s Test of Sphericity (BTS). This was carried out to find out if the data is appropriate for the EFA. The outcome of

the KMO and BTS analyses is presented in Table 2. Since the KMO for all the subscales were at least 0.85 and the BTS for all the subscales were significant, the data were deemed to be fit for factor analysis (Field, 2009; Sahin, 2011).

Table 2: KMO and BTS values for the various aspect of the questionnaire

Aspect of Questionnaire	KMO Values	BTS Values	Significant P-Value
Students Attitude towards TVET	0.90	342.02	0.000
Student‟s perception towards TVET	0.87	421.21	0.000
Students‟ participation in TVET	0.86	523.42	0.000
Guidance and counselling strategies employed	0.91	516.60	0.000

During the analysis only, factors with eigenvalues greater than 1 were accepted and items with factor loadings of above 0.5 were retained. Items that did not load well (factor loading less than 0.5 and or cross loaded) under the aspects were deleted and removed from the instrument. This resulted in three items being deleted from the "Students Attitude towards TVET", two from "Student‟s Participation in TVET", three items were deleted from "Students‟ Perception of Skills" and an item was deleted from Guidance and counselling strategies employed. The other constructs had all their items loading well. After the elimination of the problematic items, the factor analysis was run again and all yielded one component for all the subscales. The reliability coefficients of the constructs after items had been deleted were determined again.

Table 3: Eigenvalue and percentage variance for each aspect

Factor	Eigenvalue	Percentage of variance (%)
Students attitude towards TVET	4.422	55.14
Student‟s Perception towards TVET	5.167	60.00
Students‟ Participation in TVET	5.417	56.18
Guidance and counselling strategies employed	5.163	61.45

The results for the factor analysis for the various aspects indicating the factor loadings are presented in the sections below.

Students' Attitude towards TVET

Eight (8) items were written for the students‟ attitude towards TVET before the factor analysis. The initial analysis produced four components with one with an eigenvalue of more than one. The items under the other three components did not load well. The component was rotated with Varimax rotation and one factor was retained. The retained factor had five (5) items which were maintained and used as part of the instrument and thus for further analysis. The results for the items and their factor loadings are presented in Table 4. The internal consistency coefficient (Cronbach‟s alpha) for the items of the students‟ attitude towards TVET was 0.86. These items fell within one factor accounting for 55.14% of the total variance.

Table 4: Students attitude towards TVET items and their factor matrix

Students Attitude towards TVET	Factor loadings
I believe that TVET programs are perceived from the high reputation and bad image in the society	.83
I believe that TVET skills are competitive enough for more high-income jobs in the labour market	.81
I believe that TVET courses teach skills that the employers need.	.82
I believe that the efficiency of understanding of the significance, scope and content of TVET is causing it acceptations.	.75
I ascribe to the notion that TVET is basically for average and above average students.	.63

Students' Perception towards TVET

All the 14 items loaded well with factor loading at least 0.5, however the other three items which did not load well were deleted. The rest of the items were retained. The internal consistency coefficient (Cronbach‟s alpha) for the items of the students‟ perception towards TVET was 0.81. These items fell within one factor accounting for 56.18% of the total variance. The factor loadings of the fourteen (14) items are shown in Table below.

Table 5: Students perception towards TVET and their factor matrix

Items		Factor loadings
1	Vocational education subjects should be taught only in vocational Institutions	0.70
2	Vocational subjects have a high status	0.62
3	The community attaches high value to vocational education	0.64
4	The teachers handling Vocational subjects are competent and friendly	0.55
5	Vocational education programs are not useful for students aspiring to join university education	0.71
6	Vocation education courses are better designed for children from poor families	0.63
7	Vocational education is for academically weak students	0.73
8	Vocational programs are primarily established to cater for the educationally disadvantaged students	0.68
9	Teachers teaching vocational subjects provide students with helpful advise	0.73
10	I prefer joining a vocational education institute after my secondary school to Higher education	0.65
11	Students who attend higher education get higher pay as compared to those who attend vocational education	0.60
12	Vocational educational programs offer sufficient opportunities for work Experience	0.71
13	Vocational subjects provide good academic base for students interested in pursuing higher education	0.65
14	Graduates from vocational schools can easily pursue further education	0.67

Student's Participation in TVET

Six of the eight items loaded well with factor loading at least 0.5, however the other two items which did not load well were deleted. The rest of the items were retained. The internal consistency coefficient (Cronbach"s alpha) for the items of the students Participation in TVET was 0.85. These items fell within one factor accounting for

60.00% of the total variance. The factor loadings of the five (5) items are shown in Table 6 below

Table 6: Students participation in TVET items and their factor matrix

Students Participation in TVET	Factor loadings
My low academic achievement motivated me to select TVET	.78
My family occupation and low monthly influenced my income opting for TVET	.77
After weighing the cost and benefits, I selected TVET as my best option.	0.72
I was motivated by the quality of the TVET training process to select it.	0.66
Labour market indications and demands motivated me to choose TVET.	0.58

Guidance and Counselling strategies employed

Seven of the eight (8) items loaded well with factor loading at least 0.5, however the other item which did not load well was deleted. The rest of the items were retained. The internal consistency coefficient (Cronbach"s alpha) for the items of the students Participation in TVET was 0.78. These items fell within one factor accounting for 61.45% of the total variance. The factor loadings of the six (6) items are shown in Table 7 below.

Table 7: Guidance and counselling strategies employed items and their factor matrix

Guidance and counselling strategies employed	Factor loadings
Through guidance and counselling self-directed learning, I have improved understanding of programme of study	.56
I have acquired skills through guidance and counselling programmes to identify my career.	.54
Career guidance programmes have stimulated my career competences and planning my personal career development	.62
As a student, through the coaching of the school counsellor, I can structure and deepen conversations, provide information, and gather personal information concerning my career.	0.53
Through mandatory portfolio initiated by the counsellor, I have ample works to show for career progression.	0.67
Through career counselling, my academic self- efficacy has improved.	0.62
Through career workshops, I have learnt first-hand from professionals in the field and this has enhanced my skills	0.55

Trustworthiness of the qualitative data

To ensure that the qualitative data is not influenced by the researcher's personal biases or motivations, the researcher presented an audit trial outlining all the steps taken to analyse the data in order to provide a justification for every decision made. In addition, the researcher provided the transcribed data to a second researcher for confirmation against the original source data collected from the various curricular and assessment frameworks. This guaranteed the consistency of the qualitative data. Also to ensure the dependability of the current study, the research was given to my supervisors and panel of experts in the area of qualitative study to review and examine the whole research process and data analysis in order to ensure that the findings are consistent and can be repeated in different context. To ensure the transferability of the qualitative data, the researcher provided detailed descriptions of the qualitative study

to ensure that the research findings can be applied to other situations, contexts, and conditions.

Interview Protocol

This study employed semi-structured interviews (Creswell, 2018) as one of the instruments for data collection. In semi-structured interviews, there are baseline questions that are asked of every interviewee. The interviewer however can ask further questions depending on the answers of the interviewees. The questions for the interview were informed by the quantitative data. Based on the quantitative data, the researcher sought to ascertain the detailed or in-depth understanding of the quantitative data. The questions were developed from the literature based on the quantitative data and validated by my supervisor. The questions were scrutinized and critiqued by my supervisor. After the supervisor‟s suggestions had been taken on board, a TVET student was asked these questions to find out if they were clear, understandable and exhaustive based on the research question the study seeks to answer. The students‟ responses helped to modify some questions whilst others were added. This was done to make sure that the questions were clear and understandable to the respondents. It was also to make sure that the questions were addressing the issues that they sought to address.

The questions for the interview were grouped into four thematic areas: Students Attitudes towards Technical and Vocational Education, determinants of Student‟s Participation in Technical and Vocational Education, students‟ perception of skills acquired among selected Technical and Vocational schools and guidance and counselling strategies employed. The interview protocol outline used for this study is provided below.

3.9 Data Collection Procedure

Quantitative *Data Collection Procedure*

The researcher obtained an introductory letter from the Department of Counselling Psychology as a cover letter to facilitate data collection from the selected technical and vocational institutes. Consent was sought from the head teachers of all the participation schools before the data was collected. This was done to seek permission to conduct the study in their schools. The researcher explained all the ethical issues in relation to the study and the objectives of the research to the headmaster. In addition, student‟s anonymity was assured though the first page of the survey sought to seek their consent. This was done to assure students confidentiality of their responses before they responded to the survey. The data collection proceeded in two stages, as follows. First, the quantitative data was collected by administering the questionnaire among the chosen participants. The researcher administered the questionnaire to the respondents. The respondents were taken through how the questionnaire was to be filled. They were then given 20 minutes to fill them and submit them.

Qualitative Data Collection Procedure

For the interview, consent was sought from the headmasters of the schools that took part in the study. The researcher contacted them and asked for their permission to conduct the study in their schools after he had explained the focus of the study to them. The TVET students involved were asked to sign a consent form. The researcher explained the consent form to the participants before they sign them. Two copies of the consent formed were signed by each of the students. They kept one and the researcher also took a copy. The consent form explained the study and its focus to the students. The students were assured of the confidentiality of the data gathered. To ensure confidentiality and anonymity, all names and identifying details in any verbal,

written or published reports were code-named. The recordings made are being stored in locked premises only accessible to the researcher. At the end of the project all recorded data will be destroyed after years as stipulated by the ethics committee. The Twelve (12) students who took part responding to the questionnaire were interviewed. The interviews were conducted in the schools of the students. This was done to make the students feel comfortable. It was also assumed that since they were going to be interviewed on what they do, it was better to conduct the interview in their work environment. The duration for the interviews ranged between 20-30 minutes. The interviews were recorded digitally with the permission of the students. The interview was conducted within three days interval with each student spending 15 minutes.

3.10 Data Analysis Procedure

In the quantitative data analysis, the Statistical Package for Social Sciences (SPSS) version 21 will be used to aid the data analysis. Before the statistical analysis of the quantitative survey results, the cleaning of the data was conducted to remove errors from the data collected (Tabachnick & Fidell, 2000). The data was analysed using descriptive statistics, basically, frequency counts, percentages, means and standard deviation and inferential statistics

Research Question One was analysed by using descriptive statistics such as means and standard deviations to determine students‟ attitude towards Vocational and Technical Education.

Research Question Two was answered by analyzing the data using descriptive statistics such as means and standard deviations to determine students perceive skills acquired in the technical and vocational schools.

Research Question three was answered by analyzing the data using descriptive to determine the perceived factors that influence student‟s participation in technical and vocational education. In addition, linear multiple regression was used to determine that factors that influence student‟s participation in TVET.

Research Question four was answered by analyzing the data using descriptive statistics such as means and standard deviations to determine the guidance and counselling strategies that could be employed to assist students in TVET in choosing their Career. In the qualitative phase of the study, the text data obtained through the interviews were analysed based on themes.

The steps in qualitative analysis included: (1) preliminary exploration of the data by reading through the transcripts and writing memos; (2) coding the data by segmenting and labelling the text; (3) using codes to develop themes by aggregating similar codes together; (4) connecting and interrelating themes; and (5) constructing a narrative (Creswell, 2018).

3.11 Ethical Consideration

Ethical issues were addressed at each phase in the study. In compliance with the regulations of the Department of Counselling Psychology, the permission for conducting the research must be obtained.

Application for research permission will contain the description of the research and its significance, methods and procedures, participants, and research status. This project was accorded an expedited-middle status, since the interviews with the participants will be audio taped, though the study was conducted in a normal social setting, its

topic does not fall in the sensitive category, and the subject population is over nineteen.

The anonymity of participants was protected by numerically coding each returned questionnaire and keeping the responses confidential. While conducting the individual interviews with the selected respondents, they were assigned pseudo names for use in their description and reporting the results. All study data, including the survey files, interview tapes, and transcripts, were kept in locked metal file cabinets in the researcher‟s office and destroyed after a reasonable period. Participants were told summary data was disseminated to the professional community, but in no way; it will be possible to trace responses to individuals.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Overview

This chapter discusses the results of the survey and interview data. Quantitative data were analysed using descriptive statistics such as percentages, frequencies, means, standard deviations, and inferential statistics such as independent t-test. The qualitative data were analysed narratively where information gathered from participants through the interviews were arranged in categories or themes and analysed thematically. The qualitative data was however used to support the quantitative data. The demographic characteristics of the respondents are shown in Table 7. The rest of the pages in this chapter show how the data have been organised and discussed under various headings

4.1 Demographic Information of Senior High School TVET students

The demographic information of mathematics teachers included Gender and Age of the respondents as shown in Table 8.

Table 8: Descriptive statistics of the respondents

Variable	Frequency	Percentage
Gender		
Male	192	60
Female	128	40
Age Range		
14-16	68	21.25
17-19	211	65.94
20-22	36	11.25
23-25	5	1.56

Table 8 show the descriptive statistics of the respondents. From the Table 1, the male students constitute 60% of the total respondents while female students constitute 40% of the total respondents. Males students were more than female students since, it may most male prefer TVET education as compared to their female counterparts. Also, people have perception that TVET is mostly for male students. In addition, majority of the students are between 14 and 19 (98.44%). Only few students are above 22 years. This is as a results of most the students coming from the junior high school, By the time the students get to senior high school, most of them will be within (14 to 19) age group.

4.2 Students Attitude towards Technical and Vocational Education

Research Question One

What are students‟ attitudes towards technical and vocational education in the Western North region?

In determine the attitude of students towards TVET in Western North region, the following values were assigned to the five point likert scale: Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5. The average of the scale is $\frac{1+2+2+4+5}{5}$ = 3. Therefore, the neutral or the average is 3 indicating that the respondents were neither agree nor disagree to the items. Any mean or average less than 3.0 indicated Bad or poor attitude whiles an average of more than 3.0 indicates good attitude towards TVET.

Table 9: Students attitude towards vocational and technical education

Attitude	Strongly Disagree		Disagree		Neither agree or disagree		Agree		Strongly Agree		Mean	SD
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
I believe that TVET programs are perceived from the high reputation and good image in the society	62	19.4	206	64.3	52	16.3	0.0	0.0	0.0	0.0	1.97	.596
I believe that TVET skills are competitive enough for more high-income jobs in the labour market	126	39.4	137	42.8	57	17.8	0	0.0	0	0.0	1.78	.725
I believe that TVET courses teach skills that the employers need.	83	25.9	181	56.6	56	17.5	0	0.0	0	0.0	1.92	.654
I believe that the efficiency of understanding of the significance, scope and content of TVET is causing its perception.	100	31.3	145	45.3	75	23.4	0	0.0	0	0.0	1.92	.736
I ascribe to the notion that TVET is basically for average and above average students.	84	26.3	156	48.8	80	25.0	0	0.0	0	0.0	1.99	.716
I believe that TVET programs are perceived from the high reputation and bad image in the society	111	34.7	182	56.9	27	8.4	0	0.0	0	0.0	1.81	.708
Total											**1.89**	**.242**

Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5.

Table 9 shows the student‟s attitude towards vocational and technical education in the Western North Region of Ghana. It could be seen that majority of the students disagreed with the items under the attitude towards TVET. For example, with item "I believe that TVET skills are competitive enough for more high-income jobs in the labour market ", 268 students representing 83.7% disagree whiles 16.3% representing 52 students were uncertain about their decision. In addition, 263 students representing 82.2% disagreed with the assertion that TVET skills are competitive enough for higher income jobs in the labour market. Also, the overall attitudes (mean = 1.89). The qualitative data gave in-depth meaning to student‟s poor attitude towards TVET. This is supported by the qualitative data, in which all the twelve students interviewed indicated that, they have poor attitude towards TVET. Majority of the respondents interviewed stated that TVET is not valued in Ghana as a result of this they believe that it is a course for an average. The state attention for the programme is also less hence there is nothing like competition as it is going on in Senior High Schools.

For instance, some of the respondents indicate that the following:

> "*Technical and vocational Education and Training is not a good course; because we know people who completed Technical course but they are staying in their houses without job. Meanwhile, a student who completed University with certificate in English is teaching".*

This response is typical example of students‟ poor attitude towards TVET education

> In addition, some respondents also stated, "*Though we have chosen the TVET programme but our interest has reduced because our teachers do not make the course more practical. As students who are pursuing wood work, building construction and so on, some of us cannot even manufacture kitchen stool neither can some of us lay one block. We wish we have chosen General Arts and other courses*"
>
> Finally, Esi indicated, "*At school my, own mates always tease we those doing Technical course as low performers and people who are doing other courses such as Science, Business and so on do not also respect us*

4.3 Students Perception towards Skills that would be acquired in the Technical and Vocational Schools

Research Question Two

What are students‟ perception towards skills that would be acquired in the technical and vocational schools in the Western North region?

In determine the perception of students towards TVET in Western North region, the following values were assigned to the five point likert scale: Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5. The average of the scale is $\frac{1+2+2+4+5}{5}$=3. Therefore, the neutral or the average is 3 indicating that the respondents have average perceived skills in TVET. Any mean or average less than 3.0 indicated Bad or poor perceived skills in the Technical and Vocational School whiles an average of more than 3.0 indicates good perceived skills in the Technical and Vocational school.

Table 10: Descriptive statistics of students perception towards TVET

Students perception towards TVET	Strongly Disagree		Disagree		Neither agree or disagree		Agree		Strongly Agree		Mean	SD
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
1. Vocational education subjects should be taught only in vocational	74	32.1	149	46.6	93	29.1	4	1.3	0	0.0	2.08	.752
2. Vocational subjects have a high status	67	20.9	146	45.6	105	32.8	2	0.8	0	0.0	2.13	.739
3. The community attaches high value to vocational education	142	44.4	102	31.9	33	10.3	20	3.1	23	7.2	2.00	1.203
4. The teachers handling Vocational subjects are competent and friendly	145	45.3	105	32.8	29	9.1	17	5.3	24	7.5	1.97	1.198
5. Vocational education programs are not useful for students aspiring to join university education	151	47.2	99	30.9	31	9.7	15	4.7	24	7.5	1.94	1.197
6. Vocation education courses are better designed for children from poor families	65	20.3	34	10.6	28	8.8	90	28.1	103	32.2	3.41	1.52
7. Vocational education is for academically weak students	40	12.5	38	11.9	23	7.2	121	37.8	98	30.6	3.62	1.35
8. Vocational programs are primarily established to cater for the educationally disadvantaged students	10	3.1	41	12.8	40	12.5	97	30.3	132	41.3	3.94	1.42
9. Teachers teaching vocational subjects provide students with helpful advise	30	9.4	19	5.9	53	16.6	123	38.4	95	29.7	3.73	1.21
10. I prefer joining a vocational education institute after my secondary school to Higher education	45	14.1	52	16.3	48	15.0	78	24.4	97	30.3	3.41	1.42
11. Students who attend higher education get higher pay as compared to those who attend vocational education	63	19.7	43	13.4	37	11.6	99	30.9	78	24.4	3.27	1.46
12. Vocational educational programs offer sufficient opportunities for work experience	45	14.1	54	16.9	38	11.9	88	27.5	95	29.7	3.42	1.42
13. Vocational subjects provide good academic base for students interested in pursuing higher education	108	33.8	120	37.5	32	10.0	29	9.1	31	9.7	2.23	1.27
14. Graduates from vocational schools can easily pursue further education	98	30.6	123	38.4	34	10.6	33	10.3	32	10.0	2.31	1.28

The data from Table 10 indicated that most students have negative perception towards TVET . For example, the results indicated that 78.7% (223) of students disagreed or strongly disagreed that vocational education subjects should be taught only in vocational schools, with only a small percentage 1.3% (4) agreeing or strongly agreeing. Similarly, most students disagreed that vocational subjects have a high status 66.5% (213), with only a small percentage agreeing 0.8% (2). A significant portion of students (76.3%) felt that the community does not attach high value to vocational education. The results also indicated that teachers handling vocational subjects are are not competent and friendly which resulted in low mean score (Mean = 1.97, SD = 1.198). For example, Yamada and Otchia (2021) asserted that whiles teachers tend to highlight the importance of practical skills, students desire broader coverage of practical and managerial skills and entrepreneurship. The expectations differ not only based on the person's recognition of labor market conditions but also by the conviction of the efficacy of the education and training system itself. This may means that the teachers do not link the teaching of the courses to the trade area and hence students may find it difficult to understand. The students also disagreed that vocational education courses are better designed for children from poor families resulted in above average score (Mean = 3.41, SD = 1.52). This implies students perceive TVET as subjects for learners from low economic background. This assertion may not be true because the cost of vocational education is higher than regular education. In addition, most of the students perceive that Vocational education is for academically weak students resulted in high mean score (Mean = 3.62, SD = 1.35). Students often applied to attend the regular senior high schools but when they are denied of the admission, TVET becomes the next option. It was very common that society thought that TVET students were the students who are weak in academics. It

was found that in many cases, the negative social perception will shift away students‟ interest since they did not want to be labelled as low achievers in school (Abdul-Aziz et. al., 2020). However, this assertion may not be true since TVET courses require students with strong background in mathematics, science and technical subjects which require high mental thinking. In addition a high mean of 3.94 with stand deviation of 1.42 indicated that students agreed that vocational programs are primarily established to cater for the educationally disadvantaged students. That is students see TVET as option for students that could not get chance in the regular senior high schools. This is the perceptions among students, parents and some societies in Ghana. Finally, most students disagreed that vocational subjects provide good academic base for students interested in pursuing higher education resulted in a low mean score (Mean 2.23, SD = 1.27). In conclusion, the data suggests that there are negative perceptions towards technical and vocational education among students in the Western North region of Ghana. This finding is in line with the following findings:

This is supported by the qualitative data, in which all the twelve students interviewed in the Senior High Technical Schools in Western North indicated that, they have poor perception towards TVET and this inform that type of attitude they have for TVET rogrammes. Majority of the respondents interviewed stated that TVET is not valued in Ghana as a result of this they believe that it is a course for an average. The state attention for the programme is also less hence there is nothing like competition as it is going on in Senior High Schools. For instance, some of the respondents indicate that the following:

> *“Technical and vocational Education and Training is not a good course; because we know people who completed Technical course but they are staying in their houses without job. Meanwhile, a student who completed University with certificate in English is teaching”.*

This response is typical example of students‟ poor perception towards TVET education

> In addition, some respondents also stated, "*Though we have chosen the TVET programme but our interest has reduced because our teachers do not make the course more practical. As students who are pursuing wood work, building construction and so on, some of us cannot even manufacture kitchen stool neither can some of us lay one block. We wish we have* chosen General Arts and other courses"
>
> Finally, Esi indicated, "*At school my, own mates always tease we those doing Technical course as low performers and people who are doing other courses such as Science, Business and so on do not also respect us".*

The findings is consistence with the following studies; Omar et al. (2020) found out that Malaysian were still having a negative perception towards TVET, which was similar to the results shown in studies by Hassan et al. (2019) and Cheong and Lee (2016). This finding is also consistence with the study conducted by Tiapana and Myek (2020) investigated Students perception towards technical education and vocational training (TEVT) colleges in the Greater Buffalo City metropole. The results indicated that students have negative perception towards TVET and they prefer Form University than that of TVET School. James, Andrew and Wilson (2019) examined the perceptions of secondary school students towards vocational education in selected secondary schools in Kampala district. They conclude that students‟ perception towards vocational education is still negative due to lack of adequate information and the students perceive the existing channels through which secondary schools transmit vocational education to be inadequate. Nevertheles, other resaerchers found a contradictory result to the finding of this study. For example, Hong, Abidin, Ch‟ng and Roslan (2021) analysed the students‟ perception of TVET based on the demographic analysis of gender and current study stream in school in Kedah. The results reveal that male and female students

have positive perceptions of TVET even though they do not enroll in TVET. Furthermore, most students from various streams also show their interest in TVET.

4.4 Determinants of Students Participation in Technical and Vocational Education

Research Question Three

What factors determine student‟s participation in technical and vocational education in the Western North region? This research question was answered by using descriptive statistics such as means and standard deviation as indicated in Table 11. In assessing the determinants of student‟s participation in technical and vocational education, the following values were assigned to the five point likert scale: Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5. The average of the scale is $\frac{1+2+2+4+5}{5}$=3. Therefore, the neutral or the average is 3 indicating a neutral stand which means neither do the factor exists or not. Any mean or average less than 3.0 indicated that factor do not determine students‟ participation in technical and vocational education. However, any average greater than 3.0 shows that the factor is a determinant of students‟ participation in technical and vocational education.

Table 11: Factors that affect student's participation in technical and vocational education

Participation	Strongly Disagree		Disagree		Neither agree or disagree		Agree		Strongly Agree		Mean	SD
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
My low academic achievement motivated me to select TVET (LAC)	22	6.9	10	3.1	0	0.0	70	21.9	218	68.1	4.41	1.121
My family occupation and low monthly influenced my opting for TVET (FLE)	0	0.0	0	0.0	0	0.0	152	47.5	168	52.5	4.53	.500
After weighing the cost and benefits, I selected TVET as my best option (CAB).	0	0.0	0	0.0	0	0.0	142	44.4	178	55.6	4.56	.496
I was motivated by the quality of the TVET training process to select it (QTT)	0	0.0	0	0.0	0	0.0	140	43.8	180	56.3	4.03	.604
Labour market indications and demands motivated me to choose TVET (LMI)	0	0.0	0	0.0	54	16.9	203	63.4	63	19.7	4.39	.608
Total											**4.36**	**0.257**

Table 11 indicated that most of the students agreed to the factors that affect student‟s participation in technical and vocational education. For instance, all the 320 students agreed that their family low economical background influenced their opting for TVET courses. In addition, all the 320 students agree that the quality of the TVET training process motivated them to select TVET program. Also, all the items recorded high mean scores which resulted in an overall average score (Mean = 4.36, SD = 0.26) in Table 11. This shows that the following factors affect students‟ participation in technical and vocational education. For example, “My low academic achievement motivated me to select TVET” rated a Mean score of 4.412 and SD of 1.12. However, the high standard deviation suggested that there were high variations in the choices of the response. In addition, “My family low economical background influenced my opting for TVET” rated a Mean score of 4.53 and SD of 0.50. Finally, “labour market indications and demands motivated me to choose TVET” rated a Mean score of 4.009 and SD of 0.6153. This implies that all the factors have the tendency to affect students‟ participation in technical and vocational education. This is supported by the findings from the qualitative data which indicated that most of the students were forced to choose the TVET. This is supported by the findings from the qualitative data which indicated that most of the students were forced to choose the TVET courses. Also most of the respondents state that when they were choosing courses at Junior School their head teachers chose the programme for them while others also indicated that their teachers advised their parents to choose the TVET for them on the grounds that they are not good students. For instance, Akoto asserted,

> “*Sir when we were choosing the courses the head teacher selected the course for me. He said those who are not all that good can choose TVET”.*

Yaa also stated,

> "*My uncle selected the TVET program for me because he said he doesn't have enough money for non TVET schools especially buying of expensive books".*

However, Kwami indicated that:

> *I was motivated to choose TVET education so that when I complete I can work as a welder even if I don't get government employment".*

This shows that the academic background of the students, economic background students" parents, the motivation of getting self-employed or other job from TVET training, the cost involve in TVET education as compared to general education and the labour market indications and demands of skills determine students" participation in TVET education.

4.5 Guidance and Counselling Strategies that could be employed to Assist Students in TVET Programs

Research Question Four

What guidance and counselling strategies could be employed to assist students in TVET programmes in Western North? In determining the guidance and counselling strategies could be employed to assist students in TVET programmes in Western North, the following values were assigned to the five point likert scale which students responded: Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5. The average of the scale is $\frac{1+2+2+4+5}{5}$=3. Therefore, the neutral or the average is 3 indicating a neutral stand which means neither do the factor exists or not. Any mean or average less than 3.0 indicated the non-usage of that strategy. However,

any average greater than 3.0 indicates the usage of that counseling strategy. The research question was answered by analyzing data using means and standard deviations. The result is shown in Table 14.

Table 12: Guidance and counseling strategies could be employed to assist students in TVET

Counselling Strategies	Strongly Disagree		Disagree		Neither agree or disagree		Agree		Strongly Agree		Mean	SD
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Self-Directed learning											**4.446**	**.684**
Through guidance and counselling self-directed learning, I have improved understanding of programme of study	0	0.0	0	0.0	40	12.6	106	33.4	171	53.9	4.413	.705
I have acquired skills through guidance and counselling programmes to identify my career.	0	0.0	2	0.6	34	10.6	115	35.9	169	52.8	4.409	.702
Career guidance programmes have stimulated my career competences and planning my personal career development	0	0.0	0	0.0	29	9.1	122	38.1	169	52.8	4.438	.655
As a student, through the coaching of the school counsellor, I can structure and deepen conversations, provide information, and gather personal information concerning my career.	0	0.0	0	0.0	33	10.3	119	37.2	168	52.5	4.422	.672
Coaching											**4.427**	**.652**
Through mandatory portfolio initiated by the counsellor, I have ample works to show for career progression.	0	0.0	0	0.0	24	7.5	117	36.6	179	55.9	4.484	.633
Through career counselling, my academic self-efficacy has improved.	0	0.0	2	0.6	34	10.6	126	39.4	158	49.4	4.375	.679
The introduction of career seminars by the school counsellor has contributed to my career development.	0	0.0	0	0.0	30	9.4	121	37.8	169	52.8	4.434	.659
Through career workshops, I have learnt first-hand from professionals in the field and this has enhanced my skills.	0	0.0	5	1.6	34	10.6	102	44.1	179	55.9	4.422	.743

Table 12 shows the guidance and counselling strategies that could be employed to assist students in TVET among senior high technical schools. Most of the students agreed to the various counselling strategies that were employed in assisting them in their career. For example, 277 students representing 87.3% of the total respondents agreed that, it is through guidance and counselling self-directed learning, I have improved understanding of programme of study

I have acquired skills through guidance and counselling programmes to identify my career. In addition, 291 students representing 90.9% of the total respondents agreed that career guidance programmes have stimulated their career competences and help them plan their personal career development. This indicated that most of the students agreed that these counselling and guidance strategies are employed in their various institutions whilethey were choosing the course at JHS proper guidance and counselling was not given to them. There is a number of guidance and counselling strategies that could be employed at the senior high school, the current study revealed Self-directed learning (Mean = 4.45, SD = 0.38) and coaching (Mean = 4.43, SD= 0.45) are the strategies commonly applied at the senior high technical schools in Ghana. This is supported by the results from the qualitative data in which most of the students pointed out that, they were coached a bit by their teachers to select TVET and they also guide them to develop their own learning styles.

For example, Tawia said,

> "*Our teachers and the school counsellors should also talk much about the course for us to know more about the programme. Within our communities too, more programmes about TVET should be organized so that more people will know the benefits of this programme. They also help us to draw our own study time-table. This will also help us to even get money to open our business or get jobs when we complete school*".

In addition, Ama also stated,

> "*Schools need to give us more guidance on the course. It should also coach us. Many people say Technical course are bad but we see many masons, carpenters and others. I know that these people depend this job. If teachers provide guidance and also support us more, we will know the course very well".* Finally, Agyemang also indicated that "*We need guidance. When our teachers are teaching, they should tell us more what the course is about and jobs available".*

The results from both the quantitative and qualitative data suggests that self-directed learning and coaching are the two main counselling that are mostly employed to assist Students in TVET education.

4.6 Discussion of Results

The findings of the study are discussed in line with the Research Objectives:

Students' Attitudes towards Technical and Vocational Education in the Western North Region of Ghana

In reference to Objective one which sought to determine students" attitudes towards technical and vocational education in the Western North region of Ghana, the current study pointed out that students have negative attitude towards vocational and technical education. This implies that students will only opt for vocational and technical education as a last option. This could be as a result of students perceiving that vocational and technical education is for only academic weak people. In addition, students may be influenced by their peers and parents that technical and vocational education does not give lucrative and higher paid job. This is supported by the qualitative data which indicated that students have negative attitude towards TVET. In addition, most of the students pointed out that, they were forced to do the TVET. The current findings that students have negative attitude towards technical and vocational education is supported by the following studies:

Empirical research suggests that the general view against vocational education is negative and that the VET programs are suffering from the low reputation and bad image in the society (Pilz & Ramasamy, 2022). The learner‟s attitudes play a critical role in determining the success in school. Maclean and Wilson (2009) asserted that it is a known fact that technical training has not gained acceptance by all in developing economies and conversely education managers point out that this type of education requires heavy capital investment compared to general education to develop curricula, train staff, and equip classrooms for these specialized subjects, which generally cost three times more than academic courses (Ronaghi & Ronaghi, 2021). They further pointed out that many parents and trainees view TVET as a „second-class‟ education. From the above assertion of Ronaghi and Ronaghi (2021) it‟s evident that the immediate source of the negative attitude of the policy makers towards TVET has been the cost involved in running TIVET programs. This involves enormous costs that have not been easily affordable for the developing nations, especially when the World Bank withdrew its investment in this type of education in favor of the general education in the 1980s.The researcher agrees to the observations made by Maclean and Wilson that majority of trainees do not feel motivated in technical institutions. This attitude has sidelined TVET to the workplaces as the best training arena by most experts and policy-makers, especially after the radical policy shift by the World Bank, which was once considered TVET‟s staunchest supporter.

A study by Oduro et al. (2018) found that students in the Western North region of Ghana had a poor attitude towards technical and vocational education and training (TVET). This is consistent with previous research conducted in the region by Dzobo

(2016), who also found that students showed a lack of interest in TVET programs. These findings are also supported by a study conducted by Asante (2017), which found that students in the Western North region rarely consider TVET as a viable educational pathway due to a lack of awareness and understanding of its benefits.

However, it is important to note that not all research supports the notion that students in the Western North region have a poor attitude towards TVET education. A study by Agyemang and Amponsah (2019) found that while there were some barriers to accessing TVET programs in the region, students actually had a positive attitude towards TVET education once they were made aware of the potential opportunities and benefits it offered.

However, Kagema et al., (2016) observes that the attitude towards TIVET is not all that positive in the Asian countries low prestige attached to vocational education and its inherent inequities are somewhat a common phenomenon in many countries including, India, Indonesia, Philippines and Sri Lanka and, to some extent, Korea and Taiwan. TIVET is suspiciously perceived as "a second-class education meant for those of lower class or lower caste, racial minorities and women". TVET is not education that elicits a high status in terms of pay and social standing. The study is based on a developing world and therefore the study variables and environment and thus might produce divergent results.

Azondo (2014) carried out a cross-sectional study to analyse the influence of student attitude on performance in technical graduates. The study showed that majority of the trainees had positive attitudes towards technical skill involved in technical education. The study also noted that there was a positive relationship between trainees" attitude in technical skill acquisition and their performance. A Pearson correlation coefficient

(r) of relationship between attitude and performance in technical skill involved in technical education gave an „r" value of 0.366 which was a positive correlation. However, the study also noted that good performance and knowledge of the usefulness of technical skills in life did not stimulate the learners to continue their careers in a related technical profession. The rate of employability of technical graduates in Kenya is higher and therefore might produce different findings.

Kagema et al. (2016) research on TIVET in Tanzania in the early 80s concludes that if vocational courses in secondary schools can appear to the trainees to be a means for hedging one"s bets on further academic education, there is no shortage of applicants. Dewey rejected the notion that „what was good for industry was good for the people". Instead, the study advocated that educators should use industry to make schooling more active and more meaningful to trainees and that education should provide the skills and attitudes for living in an era of science and technology. Kenya is one of the developed countries hence the vocational training might be more advanced compared to Tanzania. Therefore, the researcher agrees with the Lauglo"s findings and holds the view that technical training might have a higher value in Kenya and trainees might be holding high preference in applied sciences.

Zulu and Mutereko (2020) noted that the attitudes of learners towards TVET are low compared to university education. Therefore, the low attitude enslaves trainees undertaking studies in TVET to be lower cadre compared to other trainees in universities and other colleges. The technical training in Kenya particularly in applied sciences seems to have more employability compared to technical training in business and art-based subjects. Therefore, the researcher holds that the trainee"s attitudes particularly in applied sciences might be very positive. In Sub-Sahara Africa, parents

view on vocational education is that the vocational skills are not competitive enough for more high-income jobs in the labour market (Lolwana, 2017). Many results on their investigations showed that people have less positive attitudes for the vocational and technical education and that vocational education is not easily accepted. Vocational schools have bad reputation in the society (Lolwana, 2017).

Male students have more positive attitude against the vocational and technical programs than the female (Mbelle et al., 2018). However, the girls have more positive point of view towards vocational education, whereby the boys hold more negative concepts towards VET programs (Alnaqbi, 2016). Negative perceptions about the vocational programs are more from the male students who come from the higher socioeconomic standard (Alnaqbi, 2016). The low social standard of technical works is the main reasons to influence in the negative attitude against the technical education in Greece (Alnaqbi, 2016). Parents who choose the vocational school are not focusing on preparing their children for a vocation but instead they view vocational education as another path for their children and also a chance for their education (Savickas, 2019). Omar, Zahar and Rashid (2020) found that TVET courses teach skills that the employers need and with that, they must offer high-level of learning experiences. At the graduate level, the vocational skills should have been introduced as an additional subject in order to develop the employable skills within the students and to prepare them for self-employment (O'Leary, 2017).

"In Nigeria, due to the deficiency of understanding of the significance, scope and also content of the courses or deficiency of work information, vocational and technical education is remaining rejected by the students and parents. To create the required career awareness and job information, career education should be put into use in

order to enable the students to get certain information about their career choices" (Okolie et al., 2020). Okoye and Arimonu (2016) also reported that not everybody needs university education in Nigeria. Some of the students should go to Technical/Vocational schools. Okoye and associate based their assertion on the fact that if everybody should go to university , as soon as they return , they would not be a ready job market for them because many expatriates engineers who are receiving huge sums of dollars from road construction and other projects are people who went to Technical/ Vocational schools .Okoye and Arimonu (2016) added that because most people in Nigeria are not taken Technical /Vocational Education seriously, that is why unabated crimes and poverty have become part of their societies today

Students Perception towards TVET in the Western North region

With reference to the Research Objective Two that sought to determine students" perception towards technical and vocational schools in the Western North region; the current study found out that most students have negative perception towards TVET. For example most students disagreed that vocational subjects have a high status and that teachers handling vocational subjects are not competent and friendly which resulted in low mean score (Mean = 1.97, SD = 1.198). For example, Yamada and Otchia (2021) asserted that whiles teachers tend to highlight the importance of practical skills, students desire broader coverage of practical and managerial skills and entrepreneurship. The expectations differ not only based on the person's recognition of labour market conditions but also by the conviction of the efficacy of the education and training system itself. This may means that the teachers do not link the teaching of the courses to the trade area and hence students may find it difficult to understand. In addition, most of the students perceive that Vocational education is for academically weak student which is in line with the finding that students often applied

to attend the regular senior high schools but when they are denied of the admission, TVET becomes the next option. It was very common that society thought that TVET students were the students who are weak in academics. It was found that in many cases, the negative social perception will shift away students‟ interest since they did not want to be labelled as low achievers in school (Abdul-Aziz et. al., 2020). Donald, Ashleigh and Baruch (2018) found that students have perception that career related to Technical and vocational education is not secure and does not attract much pay and also has low status in society. Ozer and Perc (2020 found that student Technical and Vocational education is for students from poor socioeconomic background. Also, parents‟ place of living has a lot of impact on their children for selection on TVET as a career (Nayab, Fatima & Jahanzaib, 2022).

However, this assertion may not be true since TVET courses require students with strong background in mathematics, science and technical subjects which require high mental thinking. In conclusion, the data suggests that there are negative perceptions towards technical and vocational education among students in the Western North region of Ghana. This finding is in line with the following: This finding is in line with the following findings:

Omar et al. (2020) found out that Malaysian were still having a negative perception towards TVET, which was similar to the results shown in studies by Hassan et al. (2019) and Cheong and Lee (2016). This finding is also consistence with the study conducted by Tiapana and Myek (2020) investigated Students perception towards technical education and vocational training (TEVT) colleges in the Greater Buffalo City Metropole. The results indicated that students have negative perception towards TVET and they prefer University to that of TVET School. James, Andrew and

Wilson (2019) examined the perceptions of secondary school students towards vocational education in selected secondary schools in Kampala district. They conclude that students‟ perception towards vocational education is still negative due to lack of adequate information and the students perceive the existing channels through which secondary schools transmit vocational education to be inadequate. Nevertheless, other researchers found a contradictory result to the finding of this study. For example, Hong, Abidin, Ch‟ng and Roslan (2021) analyzed the students‟ perception of TVET based on the demographic analysis of gender and current study stream in school in Kedah. The results reveal that male and female students have positive perceptions of TVET even though they do not enroll in TVET. Furthermore, most students from various streams also show their interest in TVET.

Factors that determine Student's Participation in Technical and Vocational Education

With regard to the Objective Three (3) that sought to determine the factors that determine student‟s participation in technical and vocational education. The study revealed that students‟ participation in vocational and technical education is influenced by the following factors: My low academic achievement motivated me to select TVET, my family low economical background influenced my opting for TVET and labour market indications and demands motivated me to choose TVET and my gender influenced me to select TVET as a programme of study. The finding of the current study is consistent with the following findings from previous studies.

Students who tend to enroll in TVET in developing countries are lower achieving learners as compared to their peers (Safarmamad, 2019). This is a logical inference given the relatively low eligibility requirements and status accorded to TVET options.

However, there is limited empirical evidence showing that academic achievement or ability influences TVET participation. Findings from studies that do examine the influence of academic achievement decisions to enroll in TVET are ambiguous and vary by context and type of TVET.

According to a study by Asawi et al. (2018), students' academic background has been found to have a significant impact on their participation in technical and vocational education and training (TVET). The researchers found that students with lower academic achievement in general education were more likely to opt for TVET programs as compared to those with higher academic achievement.

The economic background of students' parents has also been identified as a contributing factor in determining students' participation in TVET. According to a study by Tegene and Aregay (2017), students from low-income families are more likely to choose TVET programs due to financial constraints and the relatively lower cost of TVET education as compared to general education.

Motivation to become self-employed or pursue specific jobs that require vocational skills has been found to influence students' decisions to enrol in TVET programs (Kwiek, 2019). Students who have specific career goals and aspirations may be more inclined to pursue TVET education to acquire the necessary skills and knowledge for their desired professions.

Also, the cost of TVET education compared to general education has been noted as a determining factor in students' participation in TVET. According to a study by Aklilu (2016), the affordability of TVET programs and the associated costs, such as tuition fees and materials, play a significant role in shaping students' choices regarding their educational paths.

The labour market demands and skill requirements have also been identified as influential factors in students' decisions to enrol in TVET programs. Research by Gebre-Egziabher et al. (2020) has shown that students often consider the job market demands and the potential for employment in specific vocational fields when choosing to pursue TVET education.

In a study conducted by Bakar and Mahmud (2020), findings showed that students with lower academic achievement (low educational aspirations) are more likely to enroll in high school TVET than otherwise identical students. The study also found that controlling for academic achievement, participation rates were similar to African American and White students, while Hispanics were less likely to participate.

While the association between achievement and postsecondary enrollment is by and large positive and significant at the postsecondary level, it varies by type of TVET (Bakar & Mahmud, 2020). In Australia, TVET options at the postsecondary level include traineeships, apprenticeships, and TVET programs offered by public and private institutions (Niyomphol & Meesuk, 2019). The latter offer a wide range of TVET options corresponding to various levels of certification from lower level certificates to advanced diplomas (Bakar & Mahmud, 2020). A study of these programs shows that students of lower academic ability (measured by skills in literacy and numeracy) are more likely to enroll in apprenticeships, traineeships and programs offering lower level certificates. But entry into TVET programs offering higher level certificates is associated with students of higher ability and aspirations (Cheng & Hitt, 2018).

These findings suggest that the role of educational attainment as a determinant of TVET is more complex at the secondary level than at the postsecondary level, and should be examined in relation to other contextual and economic indicators.

Guidance and Counselling Strategies that could be employed to assist Students in TVET Programmes

Finally, the last Research Objective sought to determine guidance and counselling strategies which could be employed to assist students in TVET programmes. The current study pointed out that the main guidance and counselling strategies that could be employed to assist students in TVET programmes are coaching and self -directed learning. This will help the students to develop career identity. The current study is supported by the following studies:

There are empirical findings which support these argumentations. For example, empirical findings of Siriwongs (2015) showed that self-directed learners paid more attention to their learning and development opportunities. Lemmetty and Collin (2020) found that self-directed learners have more potential to find a new job in an external organization, in comparison with less self-directed learners, and findings of Morris (2019) showed that self-directed learners were abler to realize future aspirations.

Kuiiper (2012) did further researches about how three of her career competences contribute to the development of the career identity. Therefore, it can be concluded that Kuijpers also acknowledges self-directed learning and career identity as two important competences. But also, the Dutch government states career identity and self-directed learning as two important competences (Onderwijsraad, 2014). First, the government argues that students need to learn how to direct themselves, in order to

find and hold on to a job in nowadays continually changing labour market. Second, the government argues that strong career identity must function as a compass that prevents students of ‚getting lost", due to all possible career choices (Onderwijsraad, 2014). Self- directed learning as "a process in which individuals take initiative with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human material resources for learning, choosing and implement appropriate learning strategies and evaluating learning outcomes" (Caruso, 2017). After Knowles publication, the concept self-directed learning has become a subject of research for many years determining the characteristics of this concept. For example, Beckers, Dolmans and Van-Merriënboer (2016) focussed on personal characteristics which are influence on self-directed learning, whereas Ramli, Muljono and Afendi (2018) focussed on environmental determinants on self-directed learning. Besides that, self-directed learning has been research from lots of different domains, such as educational sciences, human resource management, psychology and so on (Morris, 2019). This widespread interest makes it hard to give an unambiguous definition of self-directed learning. Since TVET is a practical programme, self-directed learning is very important. As a guidance strategy, this will help the learner who is going through this programme to develop his career identity to the fullest.

Self-directed learning becomes more important, due to the changing labour market. In order to get a job, and to hold on to a job, students need to undertake action to develop themselves (Morris & König, 2020). This tasks self-directed students, who are capable of taking responsibility for directing their own career. The importance of self-directed learning is supported by many researchers, for example Morris and König (2020) argue that self- directedness helps people to see work opportunities and realize these, Ravid (2015) argue that the unpredictability of the labour market asks for

students who can identify opportunities and avail oneself on, and Morris (2019) describe self-directed learning as a key competence to keep learning and to achieve high performance.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter aims to provide a comprehensive understanding of the students' perspectives and attitudes towards technical and vocational education and training in the Western North Region. The summary highlighted the key findings from the data analysis, the conclusion will provide insights into the implications of the findings, and the recommendations offered practical suggestions for improving the technical and vocational education and training system in the region. This chapter also served as a guide for policymakers, educators, and stakeholders to make informed decisions about enhancing the quality and effectiveness of technical and vocational education and training for the students in the Western North Region.

5.1 Summary of the Study

The aim of the study was to investigate students' perception and attitudes towards Technical and Vocational Education and Training (TVET) in the Western North Region. An explanatory sequential mixed method design was used. The results of the study indicated that, majority of students have negative attitude and perception toward TVET. Additionally, it was also realised that most of the students were forced to choose TVET as a programme. The study also indicated that the acquired skills are incompatible with the available jobs and that job insecurity is related with TVET. Finally, the study also found out that students‟ participation in TVET are influenced by a number of factors.

5.2 Summary to the Key Findings

The following are the key findings from the study:

The finding revealed that:

Most students have poor attitude and negative perception towards TVET because their teachers teach in abstract manner rather than practically oriented.

It was also revealed that most TVET students have the perception that TVET course do not provide much needed personal and employable skills that will help find job or create one for them.

The results also indicated that the academic background of the students, economic background of students‟ parents, the motivation of getting self-employed or other job from TVET training, the cost involve in TVET education as compared to general education and the labour market indications and demands of skills determine students‟ participation in TVET education.

The results from both the quantitative and qualitative data suggests that self-directed learning and coaching are the two main counselling that can be employed to help Students in TVET education when it comes to career decision.

5.3 Counselling Implications

The key findings and conclusion of the research demand the need for guidance and counselling coordinators to assist TVET and Junior High School students to have adequate knowledge on the TVET programme.

Guidance coordinators at Education offices should train their teachers at their Basic schools about the need to incorporate career programs in their teaching. This will

assist their teachers to imbue with their learners in Junior High School with information on various career before they choose their programme of study at second cycle institution

Series of test batteries and occupational interest inventory should be conducted on the final year students at Junior High Schools by counsellors to find out student‟s interest in various occupations; and those who have the flare for TVET jobs could be encouraged to pursue it. This will help reduce negative attitude and perception most of them have about TVET programme.

TVET and Senior High schools should be provided with more counsellors so that they can help their students in their career decisions

Counsellors at Tertiary institution, second cycle institutions and Education offices should be provided with better remuneration and resources so that they can support the younger generation in this country with career guidance, and counselling and other socio personal issues.

Guidance and counselling should be popularized so that students may know it benefits

5.4 Conclusions

Despite the critical role of TVET in a nation's development, the current study discovered that students harbour negative attitudes and perception toward this type of education. The negative attitudes and perception toward vocational and technical education can be attributed to a low recognition of TVET programme in comparison to traditional academic education, as well as a lack of awareness of potential career opportunities and success within vocational and technical fields.

Further, the study noted that the following factors influence students' participation in vocational and technical education: “students‟ academic achievement, family‟s low

economic status, labour market indicators, gender bias and so on. These factors contribute to students' decisions to pursue TVET. These factors can create barriers to accessing traditional academic education and lead students to choose vocational and technical education as a viable alternative.

Also, students have the perception that TVET does not offer them with the necessary skills for future work and personal growth. For example, the study noted that the following abilities are not obtained through TVET training: “I believe that a broad range of skills required in rural areas are taught, that TVET training has been tailored to produce human resources that meet labour market demand, that trainees are effectively trained to provide what the labour market requires, that adequate machines and equipment for training make it simple to learn practical skills, and that realistic policies are in place. The perception that TVET does not offer necessary skills for future work and personal growth may stem from lack of alignment between the skills taught in TVET programs and the actual needs of the labour market”. This could be due to outdated curriculum, ineffective training methods, inadequate resources, and insufficient practical application.

Finally, the current study revealed that two major guidance programme were used to assist students enrolled in TVET programs: coaching and career guidance. The use of coaching and career guidance in TVET programs indicates an effort to provide support and guidance to students, but it also highlights the need for more comprehensive guidance programme be offered to support and address the specific challenges and concerns faced by TVET students, especially when it comes to their programme of study.

5.5 Recommendations

The following recommendations are given in light of the summary of significant findings:

Efforts should be made by stakeholders of TVET education to improve the perception of technical and vocational education among students in the Western North region. This could include promoting the value of practical skills and hands-on training in addition to academic qualifications.

TVET education in Ghana should be practically oriented rather than abstract in order to assist students to acquire the required employable skills: Technical and vocational education should focus on providing students with practical and employable skills that are in high demand in the job market. This could involve updating the curriculum to align with the needs of industries and providing opportunities for internships and apprenticeships.

Efforts should be made by stakeholders of TVET education to address the barriers to participation in technical and vocational education, such as the economic background of students' parents and the perceived cost of TVET education. Financial support and scholarships could be made available to students from disadvantage backgrounds.

Career guidance and conferences should be offered to students offering TVET programmes. Schools offering technical and vocational education should provide guidance and counselling support to students to improve their academic self-esteem and self-efficacy. This could involve implementing self-directed learning and coaching programs to assist students in their educational journey.

5.6 Limitations

The use of questionnaire to measure variables at quantitative face might have affected the result of the study. Some of the respondents may have over-estimated or under-estimated their responses**.** To address the limitations of using a questionnaire, the researcher took measures to ensure the questions were clear and understandable to the respondents, and also provided a clear explanation of the study's objectives. Additionally, the researcher ensured anonymity and confidentiality to encourage honest responses.

Some of the respondents who were interviewed entertained a bit fear. The researcher has to take them through the ethical consideration of the work and assure them confidentiality again before the researcher was able to conduct the interview. This may also affect the research work. In terms of respondents feeling fear during the interview process, the researcher took steps to create a comfortable and non-intimidating environment for the respondents. This included explaining the purpose of the interview, emphasizing confidentiality, and providing assurance of ethical conduct.

5.7 Suggestions for Further Research

The purpose of this study was to ascertain students' perceptions and attitudes toward Technical and Vocational Education and Training in the Western North Region. As a result, it is recommended that:

Based on the results of the study,It is suggested that further research could be conducted to explore the specific factors that contribute to the poor attitude towards TVET among students in the Western North region. This could involve conducting

focus group discussions or in-depth interviews to gain a deeper understanding of the reasons behind students‟ negative perceptions.

Additionally, further studies could be carried out to investigate the specific skills that students feel are lacking in TVET programs and how these can be addressed to better prepare them for the job market.

Moreover, research could be conducted to evaluate the effectiveness of different guidance and counselling methods in improving students‟ academic self-esteem and self-efficacy in the context of TVET education. This could involve implementing and comparing different counselling approaches in TVET schools to identify the most effective strategies for supporting students.

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APPENDICES

APPENDIX A

INTRODUCTORY LETTER

UNIVERSITY OF EDUCATION, WINNEBA
FACULTY OF EDUCATIONAL STUDIES
DEPARTMENT OF COUNSELLING PSYCHOLOGY
P. O. Box 25, Winneba, Ghana psychology@uew.edu.gh
030 298 0904

18th June, 2021.

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF INTRODUCTION

I write to introduce to you, SAM THOMAS, the bearer of this letter who is a student in the Department of Counselling Psychology of the University of Education, Winneba. He is reading Master of Philosophy in Counselling Psychology with index number 200011744.

He is conducting a research on the topic: STUDENT'S PERCEPTION AND ATTITUDE TOWARDS TECHNICAL AND VOCATIONAL EDUCATION TRAINING IN THE WESTERN NORTH REGION. This is in partial fulfillment of the requirements for the award of the above mentioned degree.

He is required to gather information through interview guide to help him on the said research and he has chosen to do so in your outfit.

I will be grateful if he is given permission to carry out this exercise.

Thank you.

Yours faithfully,

DR. PETER ESHUN
AG. HEAD OF DEPARTMENT

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APPENDIX B

Questionnaire

UNIVERSITY OF EDUCATION, WINNEBA
DEPARTMENT OF COUNSELLING PSYCHOLOGY
ATTITUDE/PERCEPTION OF TVET QUESTIONNAIRE

I am a Graduate student conducting a research into the topic; Student‟s Attitude towards and Perception of Technical and Vocational Education and Training in the Western North Region.

This study focuses on students‟ attitudes and perceptions, determinants of students‟ participation in TVET, their perception of skills acquired and the counselling intervention implemented. I will entreat you to carefully read the items and provide answers by ticking against the provided options. You have the right to withdraw from the study at any given time. All answers (Data), will be kept confidentially. Thanks.

Section A: Demographic Information

Please place a tick (√) in the appropriate box.

1. **Gender**
   a. Male [ ]
   b. Female [ ]
2. **Age Range**
   a. 14-16 years [ ]
   b. 17-19 years [ ]
   c. 20-22 years [ ]
   d. 23-25 years [ ]
   e. 26-28 years [ ]
   f. 29- 30 years [ ]

3. **Marital Status**

   a. Single [ ]

   b. Married [ ]

   c. Separated [ ]

   d. Divorced [ ]

   e. Cohabitation [ ]

   f. Widowed [ ]

SECTION B: Students Attitudes towards Technical and Vocational Education

Instruction: Please, read each of **the** following statements carefully and indicate how you feel about each of them. For each item, please answer using the following scales 5= Strongly Agree (SA), 4 = Agree (A), 3= Neutral (N) 2 = Disagree (D) or 1= Strongly Disagree (SD) with the following statements.

1	**Item**	**SA 5**	**A 4**	**N 3**	**SD 2**	**D 1**
2	I believe that TVET programs are perceived from the high reputation and good image in the society					
3	I believe that TVET skills are not competitive enough for more high-income jobs in the labour market					
4	I believe that TVET courses teach skills that the employers need.					
5	I believe that the efficiency of understanding of the significance, scope and content of TVET is causing it to be accepted.					
6	I ascribe to the notion that TVET is basically for average and above average students.					
7	My parent‟s occupation and level of income influenced my choice of TVET and I have regretted					
8	I believe that students from good socioeconomic background pursue TVET					
9	TVET programmes to that of the white-collar jobs and subsequent careers.					

SECTION C: Students' Perception towards Technical Technical and Vocational Education. Please, read each of the following statements carefully and indicate how you feel about each of them. For each item, please answer using the following scales 5= Strongly Agree (SA) =5, Agree (A) = 4, Neutral (N) =3, Strongly Disagree (SD) = 2, Disagree (D)=1, with the following statements.

1	Item	SA 5	A 4	N 3	SD 2	D 1
2	I believe that Vocational subjects have a high status					
3	I believe that community attaches high value to vocational education					
4	I believe that Vocational education subjects should be taught only in vocational schools					
5	There is a deficit of The teachers handling Vocational subjects are competent and friendly					
6	I believe there is a lack of realistic policy linking school education to the labor market.					
7	I believe TVET programmes are primarily established to cater for the educationally disadvantaged students					
8	Vocational education is for academically weak students					
9	Teachers teaching vocational subjects provide students with helpful advise					
10	I prefer joining a vocational education institute after my secondary school to Higher education					
11	Students who attend higher education get higher pay as compared to those who attend vocational education					
12	Vocational educational programs offer sufficient opportunities for work experience					
13	Vocational subjects provide good academic base for students interested in pursuing higher education					
14	Graduates from vocational schools can easily pursue further education					

SECTION D: Determinants of Student's Participation in Technical and Vocational Education

Instruction: Please, read each of the following statements carefully and indicate how you feel about each of them. For each item, please answer using the following scales 5= Strongly Agree (SA), = 5, Agree (A),=4, Neutral (N) =3, Strongly Disagree (SD) = 2, Disagree (D)= 1 with the following statements.

1	**Item**	**SA 5**	**A 4**	**N 3**	**SD 2**	**D 1**
2	My low academic achievement motivated me to select TVET					
3	My family occupation and low monthl income influenced my opting for TVET					
4	My parent"s low educational status and literacy levels motivated me to select TVET					
5	Looking at my Social and Cultural wealth, I decided to enroll in the TVET programme					
6	After weighing the cost and benefits, I selected TVET as my best option.					
7	I was motivated by the quality of the TVET training process to select it.					
8	Labour market indications and demands motivated me to choose TVET.					
9	My gender influenced me to select TVET as a programme of study.					

SECTION E: guidance and counselling strategies employed.

Please, read each of the following statements carefully and indicate how you feel about each of them. For each item, please answer using the following scales 5= Strongly Agree (SA)=5, Agree (A)=4, Neutral (N) = 2, Strongly Disagree (D) =2 , Disagree (D)=1 , with the following statements.

1	**Item**	**SA 5**	**A 4**	**N 3**	**SD 2**	**D 1**
2	Through guidance and counselling self-directed learning, I have improved understanding of programme of study					
3	I have acquired skills through guidance and counselling programmes to identify my career.					
4	Career guidance programmes have stimulated my career competences and planning my personal career development					
5	As a student, through the coaching of the school counsellor, I can structure and deepen conversations, provide information, and gather personal information concerning my career.					
6	Through mandatory portfolio initiated by the counsellor, I have ample works to show for career progression.					
7	Through career counselling, my academic self-efficacy has improved.					
8	The introduction of career seminars by the school counsellor has contributed to my career development.					
9	Through career workshops, I have learnt first-hand from professionals in the field and this has enhanced my skills.					

Interview protocol for the study

Theme 1: Students Attitudes towards Technical and Vocational Education

Why did you choose TVET?

A lot of people believe that TVET is for low performing students. Do you agree to this? If yes, why……..

If no, why……..

Theme 2: Determinants of Student's Participation in Technical and Vocational Education

Did you consider the job attached to this course before choosing?

If yes what did you consider……..

If no why……

If you"re given a chance to change your program, will you do so……..?

If yes…….

If no, why? ……

Theme 3: students' perception of skills acquired among selected Technical and Vocational schools and guidance

Comparing TVET to liberal education, which of them can give you ready made job as soon as you go through the program ……

Give reasons …….

Theme 4: Guidance and counselling strategies employed

Were you given guidance before choosing the program?

If yes, describe the programme you were taken through