UNIVERSITY OF EDUCATION, WINNEBA

COLLEGE OF TECHNOLOGY EDUCATION, KUMASI

STUDY OF THE CHOICE OF COURSES IN CONSTRUCTION TRADES- CASE STUDY OF ASUANSI TECHNICAL INSTITUTE

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AUGUST, 2018

DECLARATION

STUDENTS DECLARATION

I, NICHOLAS AKWESI BINEY, declare that this dissertation, with the exception of quotations and references contained in published works which have all been identified and 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 presentation and preparation of this work was supervised in accordance with the guidelines on supervision of dissertation as laid down by the University of Education, Winneba.

NAME OF SUPERVISOR: DR. NONGIBA A. KHENI

SIGNATURE:……

DATE: ……

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DEDICATION

I dedicate this project work to the Almighty God for the guidance, protection, knowledge and understanding He gave to me throughout the period of this dissertation. The next dedication goes to my wife and children and Robert K. Bentum and also to Nana Beenyi III, Obaatan of Nkusukum Traditional Council for the encouragement and assistance they provided me. Also to my siblings, my entire Royal Twidan Family and also to the Yamoransa Community where I am the Paramount Chief.

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ABSTRACT

The main aim of the study was to investigate the study of the choice of courses in construction trades, using Asuansi Technical Institute in Central Region as a case study.The study employed a case study research design. Quantitative research approach was used. The population for the study was four hundred and ninety-one (491). The population of the study was made up of construction students and tutors at the Asuansi Technical School in the Central Region of Ghana. The random and purposive sampling techniques was used to select 214 participants for the study. The study found that the choice of courses in construction trades pursued were, building construction technology, architectural drafting technology, plumbing and gas fitting technology, wood construction technology, furniture construction and design technology in that order. The factors that influenced students to choose specific construction trades were; the performance and ability to study the construction trade, parents' cultural influences on subject choice, the availability of educational materials, and good wages, salary, and conditions of Service. The difficulties associated with career choice in construction trades included; narrow and static range of skills offered, restricted opportunity for learning to work effectively, the minimal knowledge of materials (behaviour and characteristics) and processes may affect the quality, lack of standardised training and independent testing makes it difficult to control the quality of the training, and high cost of training craft skill. The study recommended that the Government in collaboration with professional construction regulatory bodies should make policies that will regulate craft skill training and certification in the construction industry.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

This study assessed the choice of courses in construction trades. Career selection in the construction industry is one of many important choices students will make in determining future plans. This decision will impact them throughout their lives. The essence of who the student is will revolve around what the student wants to do with his life-long work in the construction industry. Basavage (2016) in her thesis asked, "What is it that influences student's career choice one way or another?" Over the school's front door at Rindge School of Technical Arts is the saying, "Work is one of our greatest blessings. Everyone should have an honest occupation" (Rosenstock & Steinberg, cited in O'Brien, 2016). Every student carries the unique history of their past and this determines how they view the world. That history created, in part by the student's environment, personality, and opportunity, will determine how students make career choices in the construction industry. It then follows that how the student perceives their environment, personality, and opportunity also will determine the career choices students make.

Career choice for most people is a life-long process that individuals use for employment opportunities and to make a living through work professionally. According to Caparara, *et al.,* (2011), each person undertaking the process of career choice is influenced by many factors, which includes; personal aptitudes, educational attainment of the parents and the context in which they live. In early days of human civilization there was no problem in making a choice of a career. For example, feudalism converted itself into family affairs therefore it was not a problem for a son of a carpenter or bricklayer to

become one himself. But, industrialization and globalization with its consequences (positive and negative) shifted the paradigm and the need for course choices and selection for specific benefits hold sway in determining one's class state and role ascription/performance in the society (Ayuk, 2012).

It became possible to monopolized a field if one had skills and knowledge since the polity and economy is becoming more knowledge based (Zoldsoki, 2016). This according to Ayuk (2012), has added more pressure on adolescent to make choices in respect to course of study in the construction industry which Erickson in Obidigbo (2014) asserts, marks a major turning point in the child's choice he or she makes in school, which he calls "a stage of identity and role confusion". This period defines the success or failure in one's life; because it is at this stage an adolescent discovers what his or her roles and skills are best suited Edward (2016), argued that proper selection leads to identifying and charting a noble course but failure leads to truancy, non- conforming attitudes, delinquency etc.

Generally, it has been observed that many students of early age choose what their career choices are, but at the later years their motives changes. Some of these students make these choices at tender ages, others while in school and the last group, after college. Buttressing this claim Hutchings (2009), maintained in his research that, secondary students in their choices of school subject and of possible career, shows that those who choose at ages 13 continue changing until they had made "A" level choices. Oftentimes community and family views career choice as a start to workplace readiness, however, this plays a defining point in establishing adolescent in career path that opens and close opportunities. Also young adults through interaction with the context of family, school

and community learn and explore careers that ultimately lead to career choice. For instance, research carried out in rural Pennsylvania, shows that the role family, school and community plays can impact greatly on adolescent self – identity and the choices they make (Mingliang, 2016). Hence, every choice career-wise made is aimed at improving the individual's resolve in the quest to contribute to societal enhancement and to better himself or herself while professionally finding comfort, motivations and happiness. This study therefore, evaluated the study of the choice of courses in construction trades, using Asuansi Technical Institute in Central Region as a case study.

1.2 Statement of the Problem

The researcher realized that many youths make wrong choices in respect to career all over the world and indeed Asuansi Technical Institute due to ignorance, peer pressure, role models as well as prestige attached to certain careers without adequate vocational guidance and career counseling. And when this happen they become irrelevant in their career, as such jobs for them unwittingly expresses de-satisfaction and their value needs unattained; consequently, unseriousness, truancy and frustration take – the - shine - of - them. Ayuk (2012) observed that, an individual who ultimately do not contribute meaningfully to the society is "somewhat" a product of wrong career choice and unearned investment to himself, his family and a liability to the nation. Equally, Palmer (2015) maintained that adolescent indeed, should be guided to make career choices but not coerce by parents or any inducing factor that the individual is indisposed.

When students make wrong choices without considering such requirements as self discipline, dedication and longer length of time, the result would be that, the student(s)

finds it difficult to meet up with the demands of these professions which may lead to academic frauds, like cheating in the exams and impersonating in all academic endeavours. Out in the society, because of the expectation to perform in the labour market and their inability(ies) to meet such expectations – they will resort to being political thugs, arm robbers and perpetrators of social ills with the excuses that "there no are jobs".

1.3 Aims and Objectives of the Study

The aim of the study is to investigate the study of the choice of courses in construction trades, using Asuansi Technical Institute in Central Region as a case study. The specific objectives of the study include;

1. To evaluate the choices of courses and construction Training courses in construction trades at Asuansi Technical Institute.
2. To investigate the factors that influence students to choose specific construction trades.
3. To assess the difficulties associated with career choice in construction trades.

1.4 Research Questions

The research questions of the study are;

1. What are the choices of courses and construction training courses in construction trades at Asuansi Technical Institute?
2. What are the factors that influence students to choose specific construction trades?
3. What are the problems of career choice in construction trades?

1.5 Significance of the Study

The significance of this research study is to investigate the the choice of courses in construction trades. Therefore, students can be adequately prepared to explore career opportunities in the construction industry. Hence, this study would provide students with information and counseling on career choice in construction trades.

1.6 Scope of the Study

The main objective of the study is to investigate the study of the choice of courses in construction trades, using Asuansi Technical Institute in Central Region as a case study. Therefore, this study is geographically limited in scope to Asuansi Technical Institute, in the Central Region of Ghana. Moreover, the study is conceptually limited in scope to the stated objectives above.

1.7 Organization of the Study

This dissertation consists of five chapters. Chapter One deals with the background to the study, the statement of the problem, research questions and objectives of the study, significance and organization of the study. In Chapter Two the researcher reviewed related literature whiles chapter three deals with the research methodology used in the study. Other aspects of chapter three describe the research design, the population, sample and sample procedures, data gathering instruments and data collection procedures and methods of data analysis. Chapter Four describes the research findings and discussion. Chapter five presented the summary of the findings, conclusions, recommendations and suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

2.1 The factors that influence students to choose specific construction trades

2.1.1 The influence of Employee Motivation on career choice

A definition of motivation is the set of processes that determine the choices people make about their behaviours. Motivation is an abstract term. In business, motivation is not synonymous with salaries; money is a means for accommodating the economic needs of workers. Motivation means an inner wholesome desire to exert effort without the external stimulus of money (Wilbert Scheer 2009). Motivating is the ability of indoctrinating the personnel with a unity of purpose and maintaining a continuing, harmonious relationship among all people. It is a force that encourages and promotes a willingness of every employee to cooperate with every member of the team.

To maintain it is to create and perpetuate the climate which brings harmony and equilibrium into the entire work group for the benefit of all who are involved – the company as a whole (Wilbert Scheer 2009). Since effective motivation comes from within, by motivating others, the manager can do more than create proper conditions that cause people to do their work with willingness and enthusiasm. According to McClelland (1961) individuals tend to develop certain motivational drives on the cultural environment in which they live and these drives affect the way people view their jobs. McClelland (1961) suggests that achievement, affiliation, competence and power are four types of motivational drives that are found in individuals that are self-motivated and this may be the case for many construction workers. Motivation plays a part in enhancing

construction labour productivity (Smithers and Walker, 2010) and forms the basis for identification of the work environment factors.

For example, Laufer and Moore (2013) advocated the use of financial incentive programmes to improve construction labour productivity, reinforcing Maloney's (2012) thesis of driving forces that led to productivity improvements. Autonomy and comradeship (Edwards and Eckblad, 2014) are also found to be important aspects that add to the way construction workers are self-motivated about their work. However, much work in linking motivation and productivity relied on Hertzberg's sample involving mainly white-collar professionals (Mullins, 2016).

2.1.2 Equity Theories of Motivation and its impact on career choices

Huczynski and Buchanan (2007) note that employees make comparisons of their jobs based on job inputs and outcome. Job inputs are effort, experience, education and competence. On the other hand, the following constitute outcomes, namely salary levels, raises and recognition relative to those of others; if the perceived ratio is equal to that of the relevant others with whom comparison is made, a state of equity is said to exist. It can be concluded that our situation is fair – that justice prevails. When the ratio is unequal, equity tension is experienced.

The theory establishes the following propositions relating to inequitable pay:

Given payment by time, over-rewarded employees will produce more than equitably paid employees. Hourly and salary employees will generate high quality of production in order to increase the input aspect of the ratio and bring about equity. Given payment by quantity of production, over-rewarded employees will produce fewer, but higher-quality

units than will equitably paid employees. Individuals paid on a piece-rate basis will increase their effort to achieve equity, which can result in greater quality or quantity.

However, increases in quantity will only increase inequity, since every unit produced results in further over-payment. Therefore, effort is directed towards increasing quality rather than increasing quantity. Given payment by time, under-rewarded employees will produce less or poorer quality of output. Effort will decrease, which will bring about lower productivity or poorer quality output than equitably paid subjects, and given payment by quantity of production, under-rewarded employees will produce a large number of low-quality units in comparison with equitably paid employees. Employees on piece-rate pay plans can bring about equity because trading off quality of input or quality will result in an increase in rewards with little or no increase in contributions.

2.1.3 Maslow's Hierarchy of Needs Theory and its impact on career choices

According to Robbins (2011), Maslow hypothesised that within every human being there exists a hierarchy of five needs. These needs are:

1. Physiological: Hunger; thirst; shelter; sexual, and other bodily needs;
2. Safety: Security and protection from physical and emotional harm;
3. Social: Affection, sense of belonging, acceptance and friendship;
4. Esteem: Internal esteem factors such as self-respect, autonomy and achievement, and external esteem factors such as status, recognition and attention, and
5. Self-actualisation: The drive to become what one is capable of becoming. It includes–growth; achieving one's potential, and self-fulfilment.

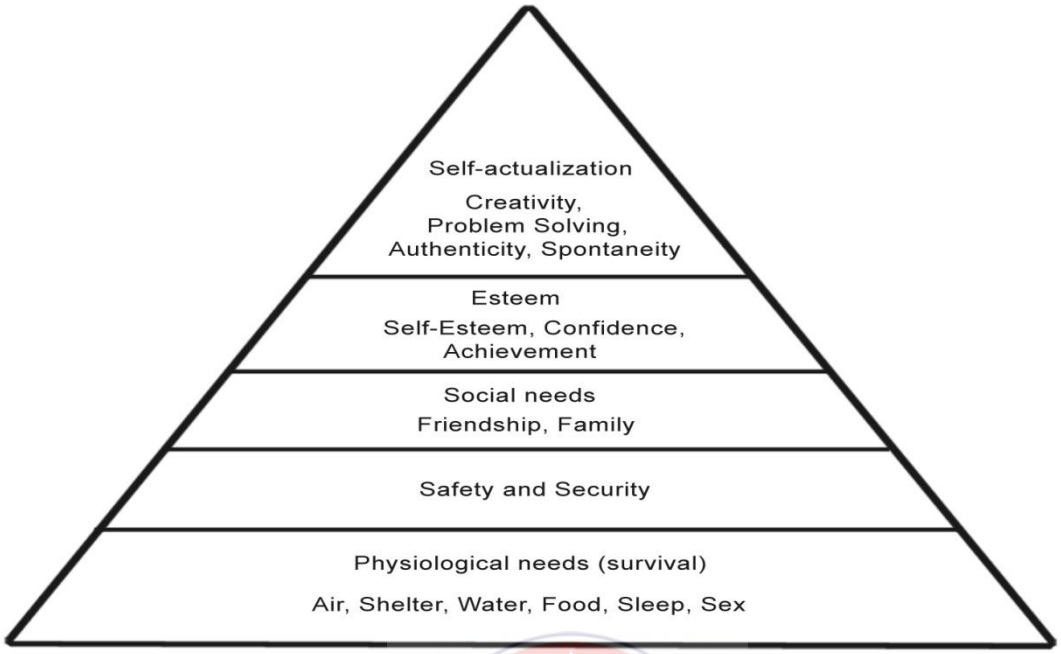

Figure 2.1: Maslow's hierarchy of need pyramid (Ivancevich, 2005).

2.1.4 Skills Requirements

Significant opportunities exist to develop more mature workers already active in the workforce. It is a larger pool to draw upon and good work habits may have been established (Modern, 2008). Innovative approaches provide the opportunities to tap into this source of skilled labour, and develop pride in workmanship on a larger scale (Anderson, 2008; Mulder, 2007). It is particularly important to be able to develop older workers when recruiting from localized communities.

Advanced Artisan Training provides a route into skilled work for mature talent (Anderson, 2008; Mulder, 2007). It essentially provides an accelerated apprenticeship with 24 weeks of taught theory combined with 54 weeks of practical work on site (Burati,

Farrington & Ledbetter, 2012). The department of Labour skills programmes have an important role to play (Harris, 2014). Their task specific vocational programmes are useful in up-skilling or re-skilling workers (Harris, 2014).

All initiatives have required a focus on recognition of prior experience and learning, a process which has long played an important role in accrediting levels of skills and learning in South Africa. Recognition of prior learning (RPL) was the focus of a National Training Board report which defined it as (Harris, 2014): a way of recognizing what individuals already know and can do. RPL is based on the premise that people learn both inside and outside formal learning structures (including learning from work and life experience) and this learning can be worthy of recognition and credit. It is a significant building block in many adult learning programmes.

Anderson (2008) states that, the role in "grandfathering" artisans with experience but no qualification is key. Anderson (2008) states, it is a vital tool in "brush-up" programmes for those who have not had the opportunity to practice their skills and, although they have some qualifications cannot meet required standards due to the fragmented nature of their project-based employment. Sustained employment with the ability to continuously practice skills is rare. Most commonly, RPL is assessed in the form of practical tests. In brush-up programme testing experiences at Murray and Roberts reveal that only two out of ten will pass.

Those performing reasonably well, although not meeting the standards can then be put through an appropriate trade school experience to brush up their skills (Harris, 2014). Walker and Shen (2010) point out that skills gaps which are labour related, negatively affect project delivery. Wahab *et al.* (2008) declare that, despite the wide spectrum of

factors affecting construction productivity, it is notable that workforce skills development and training featured as a commonly cited factor that affects timely project delivery (Naoum, 2011).

2.1.5 Attracting and Developing Young Talent to work in the construction industry

These challenges need to be addressed with concerted effort. Globally engineering has had an image problem among the young (e.g. O'Donnell *et al.*, 2008). The same is true in South Africa where in recent years' industries such as banking and information communications technology (ICT) have been more fashionable options for graduates and school leavers. This is a global concern. The conclusion of a seminar series in the East Midlands region of the United Kingdom, for example, reported by Dainty *et al.* (2015), would ring true in South Africa and elsewhere:

It was argued that efforts to create a sustainable future supply of indigenous skills must begin with a robust campaign to promote the industry, its occupations and its careers.

As a responsible employer, Murray & Roberts is addressing this in an extensive process of collaboration with schools, colleges and universities, including promoting the development of skills in mathematics. It is a process that includes bursary payments and job experience that is not just confined to the South African home market (Murray & Roberts, 2009, p. 23).

Murray & Roberts is not immune to the engineering and technology global skills deficit, which is experienced across all our businesses and projects globally. It has increased bursary intake at universities and on-the-job training programs are making a

significant contribution to building the skills pool in South Africa, Canada and Australia. The development of "learnerships" has been important. These are not just aimed at the young – people from 16 – 60 are encouraged to join one (Schussler, 2016). These programmes combine theory with practice and, focusing on learning outcomes, ensure substantive exposure and practical grounding in the world of work for school leavers, new graduates and others.

The Medupi and Kusile projects provide substantive opportunities for learnerships to be completed on one project, together with the transition into qualified craft roles. Too often experiences have been fragmented given the nature of the industry. The attitudes towards the industry among the young will continue to need to be addressed, but these projects have provided a higher profile for the sector and generated interest accordingly. The Gautrain transportation project in Gauteng Province has had a similar effect. Engaging the young will be crucial to the future of the industry. Their discipline and attitudes at work, which can manifest itself in absenteeism, will need ongoing attention.

2.2 Construction Training courses and the choices of courses in construction trades

2.2.1 Basic Steps in Establishing Construction Training Courses and career choices

In the construction industry, for training to be relevant, it should be both demanding and directed towards upgrading the skills of those who are already in the work, or within the premise of work (Loop Vander, 2012). Adesoji (2008) opine that "for training to be productive, it must be systematically planned and executed. Training is necessary when there is a gap between the existing performance of an employee (or group of employees) and the desired performance to assess whether such a gap requires a skill analysis.

Aidelomoh (2010) confirmed that training is like sharpening an existing skill in order to reflect the trends in technology. According to Prince (2012), training function is a management activity in which the personnel department provides the necessary specialists knowledge and usually carries out the training activities in addition to the administrative requirements and tasks so that the organization function operates effectively. He went further to state the following basic steps in establishing training;

a) To find out the training needs of a particular organization at all levels.

b) To formulate a training policy that will meet the needs of the organization.

c) To evaluate the resources both financial and material that could be required.

d) To provide the necessary specialist training officers or supervisor who will be responsible for implementing both the training policy and the training plan.

2.2.2 Categories of Skilled manpower in the Construction Industry

Ubenyi (2009) posits that manpower in the construction industry is broadly categorised in to unskilled and skilled manpower. Unskilled manpower refers to those personnel that work in the industry without any prior training or skills acquisition. Skilled manpower on the other hand, refers to a category of manpower that has acquired the necessary training and experience to do something well (Longman English Dictionary 2012 updated version). The level of formal education and experience gain through career practice dictate the category to which each skilled personnel in the construction industry belong (Ubenyi, 2009).

Dantong (2016) found that skilled manpower in the construction industry can be categorized in to three broad cadres as: professional cadre, middle level or technical cadre

and lower level technical cadre or craftsmen. Ubenyi (2016) have identify skills manpower in to the construction industry in to three groups based on the level of construction education attained, job speciality, skills and experience: professional/ managerial level manpower and sub professional level and crafts.

2.2.3 Construction Professionals

A professional refers to someone whose occupation requires extensive education or specialized training (Encarta dictionary, 2008). In the construction industry, they are personnel who mostly acquire their training instructions of the higher learning such as universities and polytechnics. These highly trained professional in the construction industry include; Architects, builders, civil, quantity surveyors, land surveyors, town planner's estate mangers service engineers, construction managers etc. (Ubenyi, 2009). They actively take part right from the conceptualization, design and up to the construction stages of projects in the industry. Due to their technical knowledge, they manage both human as well as material resources for the building projects implementation. Managerial levels are usually to have a college degree Technical and specialized occupations require more training as a greater technical knowledge is required. These professions also hold more legal responsibility. Ibrahim (2010) identified short lists of the professionals with an outline of the educational requirements are given below:

1. Architect - Typically holds at least a 4-year degree in architecture. To use the title "architect" the individual must be a member of the Ghana Institute of architect and registered with the regulatory body.
2. Builder- holds a degree in building. He must be a member of The Nigerian

Institute of Building and must be registered with the council of registered builder of Ghana to be addressed as a builder.

3. Civil Engineer – holds a bachelor's Degree in civil engineering and must be a member of The Ghana Society of engineer. Must be registered with the Council of Regulation of Engineering to be addressed as an Engineer.
4. Building Services Engineer - Often referred to as an "M&E Engineer" typically holds a degree in mechanical or electrical engineering. Must be registered with the Council of Regulation of Engineering to be addressed as an Engineer
5. Quantity Surveyor - Typically holds a degree in quantity surveying. Must be a member of The Ghana Institute of quantity surveyors and registered with (QSRB)
6. Town planners- they hold a degree in urban and regional planning and must be a member of The Ghana institute of town planners.
7. Estate surveyors or considerable experience in their specialty (ETA, 2004) cited in (Ibrahim, 2010)

2.2.4 Sub-Professionals (Middle level Technical Cadre)

This refers to construction personnel usually trained to be supervisors, foremen overseers, and technical draught men (Ubenyi, 2009). They usually obtain their training from polytechnic, technical, or trained on the job over a long period of time. They normally charge with the responsibility of coordinating the activities of crafts men and artisans. Craftsmen are usually expected to practically sound in ensuring the observation

of all process of constructions. Craftsmen can be from any of the following disciplines; electricians, plumbers, welders, etc.

2.2.5 The Craftsmen

According to Akindoyeni (2015) a craftsman refers to a person male/female who has been instructed in the fundamental theory of a particular craft. Craft can also be a hand on process for the production of an artifact or the components part of a physical product. Ubenyi (2009) describe construction craftsmen as those trained and skilled operatives who work manually with great expertise in various stage of the construction work. The craftsmen play a critical role in the practical realization of any construction projects; they are mostly engage in the technical aspect of the construction works. They constitute the main skilled practical workforce of the contractor and are engage from inception of construction projects to its end. Craftsmen are identified as (ITF, 2015): Bricklayers (Masons); steel fixers; electricians; carpenters; painters; plumbers; etc. Dantong (2016) to have described the craftsmen as the lower level technical cadre of manpower in the construction industry whose qualification ranges from apprenticeship certificate to the other formal trade certificates which falls below the national diploma.

According to Ibrahim (2010) construction trades/ Artisans include;

1. Bricklayer, a tradesman who lays bricks to and construct brickwork. The term also refers to personnel who use blocks to construct block work walls and other forms of masonry.
2. Carpenter, a skilled craftsman who performs carpentry - a wide range of woodworking that includes constructing buildings, furniture, and other objects out of wood. The work generally involves significant manual labour and work

outdoors, particularly in rough carpentry.

3. Heavy equipment operator drives and operates heavy equipment used in engineering and construction projects.
4. Electrician, a tradesman specializing in electrical wiring of buildings and related equipment. Electricians may be employed in the construction of new buildings or maintenance of existing electrical infrastructure.
5. Landscaper, is a tradesman that specializes in gardening
6. Painter and decorator, a tradesman responsible for the painting and decorating of buildings, and is also known as a decorator or house painter.
7. Plasterer, a tradesman who works with plaster, such as forming a layer of plaster on an interior wall or plaster decorative mouldings on ceilings or walls.
8. Plumber, a tradesman who specialises in installing and maintaining systems used for plumbing, heating, drainage, potable (drinking) water or small-sized industrial process plant piping.
9. Steel fixer, a tradesman who positions and secures reinforcing bars and mesh used to reinforce concrete on construction projects.
10. Tiller, tradesmen who works on tile in peoples home.
11. Welder is a tradesman who specialises in welding materials together

2.2.6 Crafts skill Training Methods in the Construction Industry

Adams (2012) defined training methods as the fundamental catalysts and stimulators for learning. He noted that in developing countries, training methods have been variously

called training techniques, training or educational methodologies. In his comparative review of the most often utilized training methods he observed that there is no global consensus on preferred methods, or on definitions of training methods. This was affirmed in the work of Ogunlana, Thapa and Dey (2012) investigated various training methods for different categories of construction firms. They concluded that there is no method that can be identified as the best method. In fact, it is not a question of „either/or" but of which method is appropriate for a particular purpose, at a specific time, and in certain circumstances. Training methods are means through which ideas, skills and knowledge are impacted to learners in an organized manner. There are different types of training methods that are in use today. They are categorized under two broad headings:

i. On-site-training

ii. Off-site-training

Tabassi and Bakr (2009) identified the differences between off-site and on-site training in the construction industry in the table below;

2.2.7 On-Site-Training

The most common type of on-site training is on the job training where workers learn their job by actually doing the job or receiving one – on one instruction that's usually from a senior supervisor in how to do the job (Alwi, 2010). Desler (2007) define on the job training as, training in the normal job situation where a person learns the job by actually doing the job. On-site training is the training received while the operation of a job is on under a superior or an expert on the job (Adediran, 2011). Field Personnel, i.e.

construction operatives apply this learning immediately to tasks for which they are responsible. It requires no special school, and while learning, the trainee is also contributing to the total output of the job (Surgihato, 2010). The most familiar method of on the job training (OJT) is on coaching or understudy where an experience supervisor trains the employee on the job. These training programs were mostly executed on site during the construction process.

The training which was mostly under the control of quality control department was design for workers in order to fulfil the needs according to their specific jobs such as painting, carpentry, mason etc (Surgihato, 2010). The training focus on educating craftsmen not only how to complete their jobs but effectively and efficiently in the correct manner without comprising the quality, but also how to identify all error occurred, as easier as possible during the construction process and report the errors, if any, to their supervisors. To better meet the need of on- the- job training it‟s important that training programmers are design to the responsive to the demand for training rather than simply providing a supply mechanism to deliver pre package courses in pre determined areas of training. The major advantage of OJT is that, it is relatively in expensive as trainers learn while producing and there is no need for onsite facilities like classrooms. OJT may sometimes be combined Adesoji (2008) with off- the job training. This is a widely accepted method of developing workers used by most organizations.

According to Adesoji (2008), “workmen perform much better in any organization when they undergo training through on-the-job training programmes. This method brings about good working relationship because employees get to know one another and the working environment better. It tempts the “learner” to grasp the training faster as he

imagines himself doing the task under no supervision soonest. On the other hand, this method could give birth to monotony of work, and also using unqualified personnel for supervision when the qualified ones are undergoing the training. On-site training could take the following forms: Training by experienced workmen and apprenticeship (Datergeom, 2006; US Bureau of Labour Statistic; 2000).

2.2.8 Purpose of on-Site-Training

The main purpose of the on-site-training is to increase labour productivity during the construction process. Training benefits construction firms by providing qualified labour especially field personnel who are better able to handle the demands of today‟s construction environment. The Construction companies will appreciate on-site-training programmes consequent upon the increased quality of field personnel. By increasing their quality, higher field personnel productivity is achieved (Sugiharto, 2012). To better achieve on-site training needs, it is important that training programmes are designed to be responsive to the demand for training rather than providing a supply mechanism to deliver pre-packaged courses in determined areas of training. Training should bear a high degree of relevance to the work that field personnel currently do, or to the work which was planned to be done. Ultimately, the success of any training activity will depend on individual motivation of the participant and the commitment of the construction firm from which they come (Sugiharto, 2002).

2.2.9 Training Methods under On-Site Training

There are various training methods under on-site training but the most common ones

area discussed below;

a) Job rotation**:** This is a situation in which employees are made to move from one job to another within the work setting over a defined period of time. As they move from one task to another, they gain considerable knowledge, experience and skill. The duration of the rotation is shorter at lower (levels), than at management levels where trainees are taught complex functions and responsibilities (Aidelomoh, 2010).

b) Coaching: Here, employees are placed under the direct guidance of a supervisor. This technique uses observational learning known as pure imitation. It has the advantage of allowing the coach to give on the spot feedback to the learners on whether they do it well or not (Surgihato, 2002). Others include; internship, understudy assignment (Surgihato, 2002 and Akpan, 2008).

2.2.10 Benefits of On-Site Training

The followings are the benefits of on-site training as advanced generally most cost-effective. Employees are actually productive; opportunity to learn whilst doing i.e. training is received whilst remaining in the workplace. Training alongside real colleagues, Skill is gained and you perform better on the job and Needs no classroom or other infrastructures.

2.3 Off-Site Training

This training method is organized outside the workers‟ job location. It is usually organized in a training centre or an educational institution. The objective of this method is to broaden the trainees job knowledge and experience beyond what can be learnt within

the job environment. It provides the trainees the opportunity of interacting with trainers who are different in outlook, experience and knowledge from those they are used to at work Aidelomoh (2010). Off-the-job training has its own disadvantages which may include:

i. It is usually more expensive than on-the job training and

ii. It does not allow on-the-spot assessment of training effectiveness which is possible with "on-the-job" training (Aidelomoh, 2010).

2.3.1 Some Training Methods under Off-Site Training

Many training methods exist under off site training the most common ones are discussed below;

2.3.2 Vocational or Technical Education

The most popular method of off- the – job training is formal vocational or technical education. Oni (2007) describe vocational educational as education provided for the mastery of skill and knowledge in some selected occupations as well for the development of personality for useful living. Vocational education enables individual to learn about, explore and prepared for trades in any of the career cluster in manufacturing, construction, communication and transportation, (Oni, 2007) It entails the deliberate and structured presentations of experiences, which may help individuals to change their knowledge, understanding, attitudes or behaviors in a positive manner (Prince, 2012). It is a more formal training program than apprenticeship where basic theory classroom instructions and related subjects are combining with some practical on- the job-training

(Dategeom, 2016).

Yakubu (2013) defines vocational and technical education 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, altitudes, understanding and knowledge relating to occupations in various sectors of economic and social life". Sonaiya (2008) found that in Nigeria, public vocational education and training has two element- technical and vocational educations. Technical education is offered for middle-level technical manpower. It is mostly provided by polytechnic. Vocational education on other hand is learning and training experience (Wachira, 2011). Training in school is expensive because of the infrastructure that has to be put in place. Learning in school may not be comprehensive enough compared to learning on-the-job. A lot of time is wasted in school training before any positive achievement is obtained. Some of the many problem of vocational and technical education in Nigeria as identify many researches (Oranu, 2000; Awe, 2007; Yakubu, 2013 and Lakun 2007) includes the following; poor funding, low public recognition, acute deficiencies in facilities and equipment. Others include, poor trained academic staff, misconception of the nature of vocational education, inadequate political will by the government, deficient education monitoring and evaluations, Poor incentives for teachers, unplanned expansion and enrolment, inadequate curriculum and a rapid rate of technological changes. These problem have to be of varying degrees, affected the advancement of vocational and technical education in Ghana. These types of training as observed by Aidelomoh (2010) includes: Seminars: workshop lecture or classroom method, vestibule training, briefing groups, professional training, induction training, skill

acquisition, skill development.

2.3.3 Formal and Informal Training

These are means by which we intend to communicate information, ideas, skills, attitudes and feelings to learners (Cole, 2015). There are two broad types of training methods namely, formal and informal training.

2.3.4 Formal Training

Prince (2012) it entails the deliberate and structured presentations of experiences, which may help individuals to change their knowledge, understanding, attitudes or behaviors in a positive manner in industry, formal training is used for any of a variety of specific purposes as stated below:

a) Induction Training: It involves the introduction of the new entrant to the undertaking and its ways including the structures, rules and procedures of the company to enable him to cope with the new environment.

b) Skill Acquisition: It is the development of new skills and abilities. Where „deskilling" of work takes place, semi-skilled machine operators may be provided with the kind and degree of training necessary to acquire the required skill.

c) Skill Development: Training is employed to „up-date" a person"s knowledge or skills at any stage of his career and whenever changes occur in his work such as where new technology is introduced. In the latter case, short courses, which provide information on the „new thing" and offer the opportunity to learn and practice new skills or new

application of old ones may be undertaken.

d) Increasing Motivation: It entails deliberate use of training to increase individual‟s willingness to work up to the required pattern and standards. This rests on the belief that people motivated are likely to work more effectively. They understand not only what they are expected to do, but why they are expected to do it in a certain way. The inculcation of work-related values and norms is possible in training.

e) Attitude change: Training may be undertaken to change the perspective and attitudes of workers adopt in relation to the organization and their work in a positive way. It could develop into employees trust, commitment to the organization, job involvement and job satisfaction.

2.3.5 Informal Training

Middleton *et al.* (2011) defined informal skilling, which includes both informal skills training and informal apprenticeship, as an unsystematic method of learning skills on-the-job which is received within the context of day to day production activities. It mainly involves learning via observing and doing and is largely confined to initial employment training with limited continuation of training and skills upgrading. Informal skilling is geared towards the transmission of existing practices without or with minimal external input (e.g. from colleges). The implication of this is that the master‟s ability to train is limited to his current skill and knowledge and this often results in low productivity (Ziderman, 2011).

Informal skilling is common in the construction sectors of many developing countries

e.g. Philippines, Indonesia, Egypt, India, Mexico and Brazil (International Labour Organisation, 2011; Alwi *et al.* 2016). In the Western Cape province of South Africa, 31% of the craftsmen, 54% of semi-skilled operatives, and 68% of the general operatives are trained informally. In Iran, Sri Lanka and China the number of craftsmen trained informally are 95%, 80% and 90% respectively (Jayawardane and Gunawardena, 2008).

In many of the developing countries of Sub-Saharan Africa, including Kenya, employment in the formal sector has been shrinking as a result of a combination of poor economic performance, structural adjustment policies (SAPs), and a growing number of job seekers entering the job market resulting from high population growth rates (Ziderman, 2011). Consequently, job seekers are entering the informal sector in growing numbers and creating a significant need for skills development. Accordingly, informal skilling is the most prevalent mode of training in the informal sector (Johansson and Adams, 2014).

Moreover, in Kenya and South Africa, informal skill training is further encouraged by the low levels of formal craftsmen training (Construction Industry Development Board (CIDB), 2014) as exemplified in South Africa by the reduction of trainees from 5697 in 1970 to 769 in 1990 (Catelli *et al.*, 2016). Informal skills training and apprenticeship has thus become common, especially among young people who, for various reasons, are unable to progress up the academic ladder; or gain admission to vocational training institutions; or those of all ages who cannot find employment in the formal, sector (Kent and Mushi, 2015; Johansson and Adams, 2014).

In Kenya, the informal sector is estimated to be training more school leavers than all formal vocational training institutions combined (Ziderman, 2013) making it a significant

contributor to skills development. Additionally, informal skills training is attractive in developing nations because it is self-financing in that it takes place without any funding from budget-constrained governments or formal levy funding by relying mainly on user fees or low wages for the apprentices during training (Ziderman, 2013). Moreover, informal skills training and apprenticeship has expanded because many of the existing formal training institutions are ill-prepared to equip trainees with the skills needed to operate in an informal sector which is fast becoming the dominant employer (Kent and Mushi, 2015; Ziderman, 2011; Johansson and Adams, 2014). Informal skills development is generally unregulated and is characterised by the following features (Kent and Mushi, 2015; McGrath *et al. 20*15):

2.3.6 Advantages of Informal Training

Ziderman (2011) identify the following advantages of informal training in the construction industry as follows;

1. Entry into the training regime has little or no emphasis on academic qualifications; hence it is open to all including those who are illiterate.
2. No standard cost of training; i.e. there are no set fees hence little commonality in the charges among providers even for similar skill areas or trades. The cost of training is usually in the form of payment of a lump sum (which may be converted into monthly instalments) to the providers or via the apprentice‟s acceptance of low wages during the training.
3. Ad hoc curriculum; i.e. no prescription of syllabus, subject content or method of assessment, and theoretical knowledge is largely ignored. Training is production-

oriented, revolving chiefly around workplace instruction only.

4. Training providers have no formal qualifications either as tradesmen or as trainers. This is mainly because many of the masters *cum* trainers acquired their skills informally too.
5. Pedagogy is limited to learning by doing (trial and error) and is based on tacit knowledge with little use of diagrams, books or models. What the trainee learns is dependent on the work in progress and the relationship is founded on „master and man" rather than „teacher and pupil". Additionally, very little emphasis is placed on the creation of a healthy and safe work environment or on the safe use and correct selection of tools and materials.
6. The progress and capability of the trainee/apprentice is dependent on the level of instruction necessary to enable him / she to work unsupervised and no value is given to independent assessment like trade tests.
7. Training is suited for self-employment, accentuating getting the job done rather than procedural correctness. By the end of the training the trainee has some work experience and has established links with potential informal employers.

2.3.7 Disadvantages of Informal Training

Ziderman (2011) identified the disadvantages of informal skill which include:

1. The narrow and static range of skills offered.
2. Restricted opportunity for learning to work effectively.
3. The minimal knowledge of materials (behaviour and characteristics) and processes may affect the quality, reliability and safety of use of the final

product.

4. The minimal theoretical knowledge and *ad hoc* curriculum erodes the necessary foundation for new skills thus making it difficult to learn.
5. Lack of standardised training and independent testing makes it difficult to control the quality of the training.
6. There is a lack of appropriate scale of equivalence by which the knowledge and skills acquired can be externally vetted hence the competence of the graduates is difficult to vet.

2.4 The problems of career choice in construction trades

The researches examine some major barriers that prevent construction companies from conducting training among the major ones are discussed below;

2.4.1 High Cost of Training Craft skill

One of the greatest obstacles to implementing a quality training program for any organization is lack of funding (Ying, 2009). Contractors fear they will lose jobs if they include the cost of training in their bid packages. Trade associations cannot establish or implement training until they have a commitment from contractors to support and pay for training. Most training programs are funded either by charging student's tuition or by collecting contributions from employers on the basis of hours worked. A few programs are funded by a combination of both. Government budgets are usually the main source of financing for craft skills development in conventional training markets; especially pre-employment training, employers and trainees represent possible sources of funds to improve training outcomes. The levy system is the most common means of ensuring

industry‟s involvement in training in both developed and developing countries (Johansson, 2012; Ziderman, 2011; Clarke and Wall, 2008).

Revenue generation schemes, where levy proceeds are used to finance training provided by public-sector institutions; and levy-grant schemes aimed at encouraging training investment by firms. While training funds have been established in 30 of the 47 countries of SSA, most of the funds in the region were centralised in design, but fell short of the standards required to operate them (Ziderman, 2011). Their weaknesses included deficiency in design, poor implementation or malfunction and that quite often the money raised was diverted to uses other than that for which it was intended. Sector or industry-based training funds offer an alternative to the centralised national funding model.

2.4.2 Aging and Retirement of Craft Skilled Workers.

Currently, craft training is insufficient to keep pace with the demand for qualified craft workers. This situation is aggravated by an aging workforce and the high retirement rates of experienced craft workers (Haas *et al.* 2013). Aging and retirement have been repeatedly identified as a factor responsible for the shrinking of skilled and qualified craftsmen in the construction industry (Obiegu, 2012 and Bokinni, 2015).

Danton (2016) and Obiegu 2012 have reportedly that the average age skilled and qualified craftsmen in the Ghanaian construction industry ranges from 45-50 years and 48 years respectively. The problem is made worst by the demographic decline in the number of young ones ready to enrol in to skilled trade careers in construction Obiegu, (2012) has warned that if care is not taken craft skill and artisan in the Ghanaian construction industry will go in to extinction. Therefore, there is the need to attract more young

graduates to the construction industry.

2.4.3 Lack of Assessment of Craft Workers' Training needs

Muya *et al.* (2014) reported a number of factors that influence skill availability, including training provisions, which govern the supply of skills; sector volume capacity, which drives the demand for skills; and other socio-cultural as well as public policy sector determinants of skills development. One efficient technique used to improve the capabilities of construction professionals is training. Farrell and Gale (2013) strongly recommended mandatory attendance at training programs for novice before they are allowed to take charge of construction sites.

2.4.4 Certification of Skills

Researchers (Wachira *et al.* 2016) have lamented the need for the establishments of a common platform for certification of skills in the construction industry due to the large presence of craftsmen who acquired their skills informally and have not tested and certified have been proposed by many writers. The system will serve as a quality assurance mechanism where accreditation will focus more on performance. Based on the actual skills or competencies performable by the persons (UNESCO, 2007) the system would also contribute in recognition prior leaning and skills training through informal means and thus, provide motivation for employees and skills upgrading. This would take place via integration of both formal and informal training so that all competent craftsmen (irrespective of their training background) are accredited and certified. Mackenzie *et al*. (2010) observed that, in the UK, that construction employees perceived that the

construction skills certification Scheme (CSCS) as the best approach for tackling career choices problems in the construction sector. The benefits of the scheme for the individual are recognition for skills, competence and qualifications, and the promotion of greater health and safety and personal training awareness. For employers, the benefits of the scheme include; identification and recruitment of the right people, raising quality standards land improved standards of health and safety awareness, (Mackenzie *et al.,* 2010).

2.5 Research Gap

The research gap of this study is that, there is a lack of empirical evidence concerning the choice of courses in construction trades at the Asuansi Technical Institute in Central Region. Therefore, this study examined the choice of courses in construction trades at the Asuansi Technical Institute in Central Region to provide empirical evidence of this gap.

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

In this chapter an attempt was made to look at the research design, target population, data sources, sampling procedures (size and technique), data collection instruments and data analysis.

3.1 Research Design

As indicated earlier, there is the need to have a design in the conduct of research and in the words of Bryman (2008: 31), "the design provides a framework for the collection and analysis of data". In essence, the design influences and determines your choice of the methods to use in the collection of your data. Basically, five prominent designs are outlined by Bryman and involve the experimental design, cross-sectional design also known as survey research, longitudinal design, case study and comparative design. This research employed a case study design because it involves looking at the study of investigating the study of the choice of courses in construction trades, using Asuansi Technical Institute in Central Region as a case study. Using such a single case study of an area would mean that as per the tenets of qualitative research strategy, the issue of generalization would be limited to the context of the study as opposed to that in quantitative research where the use of a case study would result in a careful selection of a sample that is representative enough to be generalized beyond the context in which the study is being carried out.

3.2 Research Approach: Quantitative and Qualitative Research

Two major research approaches are used namely the qualitative research strategy and quantitative research strategy even though some researchers use a third strategy known as mixed method that "integrates the qualitative and quantitative research strategies in a single project" (Bryman, 2014). This study employed both quantitative and qualitative strategy. According to Gubrium and Holstein (2007 cited in Bryman, 2008: 367), qualitative research follows four major traditions and fundamentally, one of such traditions is naturalism. By this, qualitative research seeks to "understand social reality in its own terms, as it really is; provides rich description of people and interaction in natural settings" (Gubrium & Holstein, 2007 cited in Bryman, 2008: 367).

The researcher sought to `understand the real social and environmental impacts of the choice of courses in construction trades, using Asuansi Technical Institute in Central Region as a case study. However, to be able to understand the real impacts of choice of causes in construction trades, the mixed research strategy have been adopted since it provided me with the opportunity to observe, understand, assess and explore the nature and extent of the choice of courses in construction trades in depth and to see the situation as it is without being speculative. Since the research demands that I also make contact with the cross section of stakeholders in the construction industry which involves the indigenous people themselves as well as students and tutors at Asuansi Technical School, it was feasible to employ combined qualitative data collection methods. Specifically, qualitative data collection methods of interviewing, participant observation, focus group discussion and analyses of relevant documents were used.

3.3 Population

The population for the study was four hundred and ninety-one (491). The population of the study was made up of construction students and tutors at the Asuansi Technical School in the Central Region of Ghana.

Table 3.1: Students' enrollment of building courses at Asuansi Technical Institute

Programmes	Form 1	Form 2	Form 3	Students Total	Tutors	Grand total
Building Construction Technology (BCT)	19	15	15	49	3	52
Architectural Drafting Technology (ADT)	18	14	14	46	3	49
Wood Construction Technology (WCT)	18	14	14	46	2	48
Plumbing and Gas Fitting Technology (PGFT)	18	13	12	43	2	45
Furniture Construction and Design Technology (FCDT)	18	15	13	46	2	48
Welding and Fabrication Technology	19	15	13	47	3	50
Mechanical Engineering Technology	20	16	13	49	2	51
Electrical Engineering Technology	18	14	12	44	3	47
Motor Vehicle Technology	18	12	14	44	3	47
Creative Art Technology	18	19	14	51	3	54
Grand total	**184**	**147**	**134**	**465**	**26**	**491**

Source: Field survey, 2018

3.4 Sampling Technique and Sample Size

The study used stratified random and purposive sampling techniques to select 214 participants for the study. The ever increasing need for a representative statistical sample

in empirical research has created the demand for an effective method of determining sample size. To address the existing gap, Krejcie & Morgan (1970) came up with a table for determining sample size for a given population for easy reference. According to the Krejcie & Morgan (1970), table of determining sample size, a population of 491 requires a sample size of 214. Non-Probability sample (convenience) procedure was used to select 214 respondents for the study. The sample size was made up 214 people comprising 188 students and 26 tutors at the Asuansi Technical School.

3.5 Research instrument used

Data was collected using a structured written questionnaire and interview guide.

3.5.1 Questionnaire

Questionnaires were designed and distributed to the respondents at the Asuansi Technical School in the Central Region. Closed and open ended questionnaire items will be designed to collect primary data; this is because it has proven to be consistent and popular method of data collection. The questionnaire covered items which helped the researcher to get information regarding the choice of courses in construction trades. The questionnaire consisted of four sections. Section 1 contains the demographic information of the respondents including the respondent's gender, age, educational qualification, and working experience. Section 2 evaluated the choices of courses and construction Training courses in construction trades at Asuansi Technical Institute. Section 3 investigated the factors that influence students to choose specific construction trades and section 4 assessed the problems of career choice in construction trades.

3.6 Piloting the Instruments

The instrument was piloted at the Asuansi Technical Institute in the Central Region of Ghana. The pilot questionnaire will be given to 10 respondents to gather their views and responses. Their comments were considered before the actual administration of the questionnaire based on the issues emerge from the questionnaire data a semi-structured interview was piloted at the place and with the same participants.

3.7 Analysis of Data

Both qualitative and quantitative techniques of data processing were used in the data analyses and presentation. Data obtained from the field were organized through data cleaning and processing; this involved data coding before the data entry process. The field data was afterwards dis aggregated to reflect responses from the respondents. To facilitate some comparative analysis, Statistical Package for the Social Sciences (SPSS) was used since its application makes data presentation and analysis convenient. Descriptive statistics such as the use of tables, percentages will be used to present the data for easy comprehension. Data collected on respondents were analyzed using qualitative and quantitative techniques.

3.8 Ethical Considerations

This relates to moral stand the researcher should consider in all research methods in all stages of the research design. The researcher followed three principles of the Belmont Report, namely beneficence, respect for human dignity as well as justice (Polit et al 2011:75).

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The main objective of the study was to investigate the study of the choice of courses in construction trades, using Asuansi Technical Institute in Central Region as a case study. The specific objectives of the study including evaluating the choices of courses and construction Training courses in construction trades at Asuansi Technical Institute. Secondly, to investigate the factors that influence students to choose specific construction trades and thirdly to assess the problems of career choice in construction trades. The analysis of the study was based on these research objectives.

4.2 Response Rate

The researcher sent a total of 188 questionnaires to gather information from the technical students. Out of 188 questionnaires sent out for primary data, 184 questionnaires were received while 4 questionnaires were not received. therefore, the analysis of the study was based on 98% response rate (see Figure 4.1).

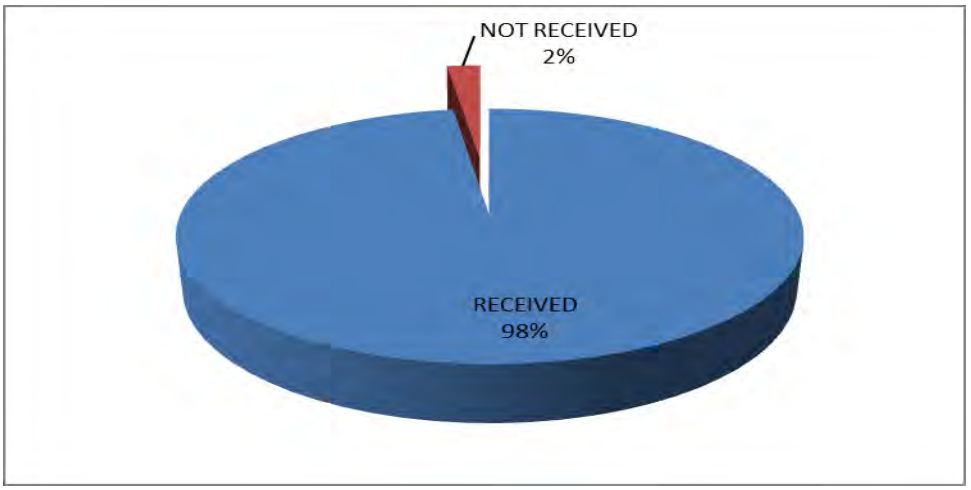

Figure 4.1: Response rate of the Respondents

4.3 Demographic Information of the Respondents

Table 4.1 shows the demographic information of the respondents, including the respondent's gender, and age category.

Table 4.1: Demographic Information of the Respondents

Gender	Frequency	Percent
Male	147	79.9
Female	37	20.1
Total	184	100.0
Age category		
14-16 years	17	9.2
17 – 18	65	35.3
18 and above	102	55.4
Total	184	100.0

N=184, Source: Field survey, 2018

Table 4.1 show that 147 respondents representing 79.9% were males while 37 respondents representing 20.1% were females. Moreover, 102 respondents representing 55.4% were above 18 years of age, 65 respondents representing 35.3% were between the age ranges 17-18 years, while 17 respondents representing 9.2% were between the age ranges 14-16 years. This implies that most of the respondents were matured and responsible for their choices of courses.

4.4 Choices of Courses and Training in Construction Trades at Asuansi Technical Institute

Table 4.2 assessed the the choices of courses and construction Training courses in construction trades at Asuansi Technical Institute.

Table 4.2: Choices of Courses and Training in Construction Trades

Programmes	Frequency	Ranking	Ranking
Building Construction Technology (BCT)	32	18.2	1st
Architectural Drafting Technology (ADT)	30	16	2nd
Wood Construction Technology (WCT)	16	9	6th
Furniture Construction and Design Technology (FCDT)	22	12	5th
Plumbing and Gas fitting and Technology	23	12.5	4th
Welding and Fabrication Technology	12	6.5	7th
Mechanical Engineering Technology	8	4	9th
Electrical Engineering Technology	24	13	3rd
Motor Vehicle Technology	10	5	8th
Creative Art Technology	7	3.8	10th
Total	**184**	**100**	

N=184, Source: Field survey, 2018

Table 4.2 indicates that 32 respondents representing 18.2% were pursuing Building Construction Technology (BCT) (ranked 1st), 30 respondents representing 16% pursued architectural drafting technology (ADT) (ranked 2nd), 24 respondents representing 13% were studying electrical engineering fitting technology (ranked 3rd), 23 respondents representing 12.5% pursued plumbing and gas technology (ranked 4th), 22 respondents representing 12% pursued furniture construction and design technology (ranked 5th), 16 respondents representing 9% studied wood construction technology (ranked 6th), 12 respondents representing 6.5% studied welding and fabrication technology (ranked 7th),

10 respondents representing 5% pursued electrical engineering technology and motor vehicle technology respectively (ranked 8th), 8 respondents representing 4% studied mechanical engineering technology while 7 respondents representing 3.8% studied creative art technology.

4.4.1 Discussion of the Choices of Courses and Training in Construction Trades

These findings are in agreement with Ubenyi, (2009), He indicated that a professional refers to someone whose occupation requires extensive education or specialized training. In the construction industry, they are personnel who mostly acquire their training instructions of the higher learning such as universities and polytechnics. These highly trained professional in the construction industry include; Architects, builders, civil, quantity surveyors, land surveyors, town planner's estate mangers service engineers, construction managers etc. (Ubenyi, 2009). They actively take part right from the conceptualization, design and up to the construction stages of projects in the industry. Due to their technical knowledge, they manage both human as well as material resources for the building projects implementation. Managerial levels are usually to have a college degree Technical and specialized occupations require more training as a greater technical knowledge is required. These professions also hold more legal responsibility. Ibrahim (2010) identified short lists of the professionals with an outline of the educational requirements are given below:

1. Architect - Typically holds at least a 4-year degree in architecture. To use the title "architect" the individual must be a member of the Ghana Institute of architect and registered with the regulatory body.
2. Builder- holds a degree in building. He must be a member of The Nigerian

Institute of Building and must be registered with the council of registered builder of Ghana to be addressed as a builder.

3. Civil Engineer – holds a bachelor's Degree in civil engineering and must be a member of The Ghana Society of engineer. Must be registered with the Council of Regulation of Engineering to be addressed as an Engineer.
4. Building Services Engineer - Often referred to as an "M&E Engineer" typically holds a degree in mechanical or electrical engineering. Must be registered with the Council of Regulation of Engineering to be addressed as an Engineer
5. Quantity Surveyor - Typically holds a degree in quantity surveying. Must be a member of The Ghana Institute of quantity surveyors and registered with (QSRB)
6. Town planners- they hold a degree in urban and regional planning and must be a member of The Ghana institute of town planners.
7. Estate surveyors or considerable experience in their specialty (ETA, 2004) cited in (Ibrahim, 2010)

4.5 Factors that Influence Students to Choose Specific Construction Trades.

Table 4.3 evaluated the factors that influence students to choose specific construction trades.

Table 4.3: Factors that Influence Students to Choose Specific Construction Trades.

The motivating factors that influences career choice	Frequency	Percent	Ranking
Performance and ability to study construction trades	40	21.7	1st
Family and peers	16	8.7	7th
Parents' cultural influences on subject choice.	31	16.8	2nd
Good wages; Salary, Wages and Conditions of Service	23	12.5	4th
Job security	22	12.0	5th
Promotion and growth in the organization;	17	9.2	6th
Interesting work.	7	3.8	8th
Availability of educational materials	28	15.2	3rd
Total	184	100.0	

N=184, Source: Field survey, 2018

Table 4.3 reveals that 40 respondents representing 21.7% affirmed that the motivating factor that influence career choice is the performance and ability to study construction trades (ranked 1st), 31 respondents representing 16.8% said that parents' cultural influences on subject choice influences students to choose specific construction trades (2nd), 28 respondents representing 15.2% indicates that the availability of educational materials influence career choice in construction trades (ranked 3rd), 23 respondents representing 12.5% revealed that good wages; salary, wages and conditions of Service influences career choice in construction trades (ranked 4th), 22 respondents representing 12% revealed that job security is a factor that influences career choice (ranked 5th), 17 respondents representing 9.2% indicated that promotion and growth in

the organization affects career choice in construction trades (ranked 6th), 16 respondents representing 8.7% said that family and peers influences career choices in construction trades (ranked 7th), while 7 respondents representing 3.8% revealed that interesting work influences career choice in construction trades (ranked 8th).

4.5.1 Discussion of Factors that Influence Students to Choose Specific Construction Trades.

These findings are in agreement with Wilbert Scheer (2009), they define motivation as the set of processes that determine the choices people make about their behaviours. Motivation is an abstract term. In business, motivation is not synonymous with salaries; money is a means for accommodating the economic needs of workers. Motivation means an inner wholesome desire to exert effort without the external stimulus of money. Motivating is the ability of indoctrinating the personnel with a unity of purpose and maintaining a continuing, harmonious relationship among all people. It is a force that encourages and promotes a willingness of every employee to cooperate with every member of the team.

To maintain it is to create and perpetuate the climate which brings harmony and equilibrium into the entire work group for the benefit of all who are involved – the company as a whole (Wilbert Scheer 2009). Since effective motivation comes from within, by motivating others, the manager can do more than create proper conditions that cause people to do their work with willingness and enthusiasm. According to McClelland (1961) individuals tend to develop certain motivational drives on the cultural environment in which they live and these drives affect the way people view their jobs. McClelland (1961) suggests that achievement, affiliation, competence and power are four

types of motivational drives that are found in individuals that are self-motivated and this may be the case for many construction workers. Motivation plays a part in enhancing construction labour productivity (Smithers and Walker, 2010) and forms the basis for identification of the work environment factors.

For example, Laufer and Moore (2013) advocated the use of financial incentive programmes to improve construction labour productivity, reinforcing Maloney's (2012) thesis of driving forces that led to productivity improvements. Autonomy and comradeship (Edwards and Eckblad, 2014) are also found to be important aspects that add to the way construction workers are self-motivated about their work. However, much work in linking motivation and productivity relied on Hertzberg's sample involving mainly white-collar professionals (Mullins, 2016).

4.6 Problems associated with Career Choice in Construction Trades.

Table 4.4 identified the problems of career choice in construction trades

Table 4.4: Problems associated with Career Choice in Construction Trades

Statement(s)	1 f(%)	2 f(%)	3 f(%)	4 f(%)	5 f(%)	Total f(%)
The narrow and static range of skills offered.	22 (12)	25 (13.6)	13 (7.1)	90 (48.9)	34 (18.5)	184 (100)
Restricted opportunity for learning to work effectively.	19 (10.3)	33 (17.9)	63 (34.2)	63 (34.2)	47 (25.5)	184 (100)
The minimal knowledge of materials (behaviour and characteristics) and processes may affect the quality, reliability and safety of use of the final product.	38 (20.7)	19 (10.3)	22 (12)	71 (38.6)	34 (18.5)	184 (100)
The minimal theoretical knowledge and *ad hoc* curriculum erodes the necessary foundation for new skills thus making it difficult to learn.	23 (12.5)	23 (12.5)	26 (14.1)	82 (44.6)	30 (16.3)	184 (100)
Lack of standardised training and independent testing makes it difficult to control the quality of the training.	23 (12.5)	30 (16.3)	43 (23.4)	76 (41.3)	12 (6.5)	184 (100)
There is a lack of appropriate scale of equivalence by which the knowledge and skills acquired can be externally vetted hence the competence of the graduates is difficult to vet.	35 (19)	20 (10.9)	23 (12.5)	68 (37)	38 (20.7)	184 (100)
High cost of training craft skill	34 (18.5)	17 (9.2)	24 (13)	70 (38)	39 (21.2)	184 (100)
One of the greatest obstacles to implementing a quality training program for any organization is lack of funding	35 (19)	19 (10.3)	23 (12.5)	66 (35.9)	41 (22.3)	184 (100)
Aging and retirement of craft skilled workers.	24 (13)	22 (12)	9 (4.9)	75 (40.8)	54 (29.3)	184 (100)
Craft training is insufficient to keep pace with the demand for qualified craft workers.	26 (14.1)	14 (7.6)	24 (13)	50 (27.2)	70 (38)	184 (100)
Aging and retirement have been repeatedly identified as a factor responsible for the shrinking of skilled and qualified craftsmen in the construction industry.	10 (5.4)	12 (6.5)	18 (9.8)	71 (38.6)	73 (39.7)	184 (100)
Lack of assessment of craft workers' training needs	14 (7.6)	12 (6.5)	13 (7.1)	89 (48.4)	56 (30.4)	184 (100)

N=184, Source: Field survey, 2018

Table 4.4 indicates that 90 respondents representing 48.9% agreed that narrow and static range of skills offered is the problem of career choice in construction trades, 34 respondents representing 18.5% strongly agreed, 25 respondents representing 13.6% disagreed, 22 respondents representing 12% strongly disagreed while 13 respondents representing 7.1% were neutral. Furthermore, 63 respondents representing 34.2% agreed that restricted opportunity for learning to work effectively is the problem of career choice in construction trades, 63 respondents representing 34.2% agreed, 47 respondents representing 25.5% strongly agreed, 33 respondents representing 17.9% disagreed, while 19 respondents representing 10.3% strongly disagreed.

Moreover, 71 respondents representing 38.6% agreed that the minimal knowledge of materials (behaviour and characteristics) and processes may affect the quality, reliability and safety of use of the final product, 38 respondents representing 20.7% strongly disagreed, 34 respondents representing 18.5% strongly agreed, 22 respondents representing 12% were neutral, while 19 respondents representing 10.3% disagreed. Also, 82 respondents representing 44.6% agreed that the minimal theoretical knowledge and ad hoc curriculum erodes the necessary foundation for new skills thus making it difficult to learn, 30 respondents representing 16.3% strongly agreed, 23 respondents representing 12.5% strongly disagreed and disagreed respectively while 26 respondents representing 14.1% were neutral.

To add more, 76 respondents representing 41.3% agreed that lack of standardised training and independent testing makes it difficult to control the quality of the training, 43 respondents representing 23.4% were neutral, 30 respondents representing 16.3% disagreed, 23 respondents representing 12.5% strongly disagreed, while 12 respondents

representing 6.5% strongly agreed. The study results indicate that 68 respondents representing 37% agreed that there is a lack of appropriate scale of equivalence by which the knowledge and skills acquired can be externally vetted hence the competence of the graduates is difficult to vet, 38 respondents representing 20.7% strongly agreed, 35 respondents representing 19% strongly disagreed, 23 respondents representing 12.5% were neutral, while 20 respondents representing 10.9% disagreed.

Also, 70 respondents representing 38% agreed that high cost of training craft skill is the problem of career choice in construction trades, 39 respondents representing 21.2% strongly agreed, 34 respondents representing 18.5% strongly disagreed, 24 respondents representing 13% were neutral, while 17 respondents representing 9.2% disagreed. Moreover, 66 respondents representing 35.9% agreed that one of the greatest obstacles to implementing a quality training program for any organization is lack of funding, 41 respondents representing 22.3% strongly agreed, 35 respondents representing 19% strongly disagreed, 23 respondents representing 12.5% were neutral, while 19 respondents representing 10.3% disagreed.

Furthermore, 75 respondents representing 40.8% agreed that aging and retirement of craft skilled worker's affects is career choice in construction trades, 54 respondents representing 29.3% strongly agreed, 24 respondents representing 13% strongly disagreed, 22 respondents representing 12% disagreed. Moreover, 70 respondents representing 38% strongly agreed that craft training is insufficient to keep pace with the demand for qualified craft workers, 50 respondents representing 27.2% agreed, 26 respondents representing 14.1% strongly disagreed, 24 respondents representing 13% were neutral, while 14 respondents representing 7.6% disagreed.

Furthermore, 73 respondents representing 39.7% strongly agreed that aging and retirement have been repeatedly identified as a factor responsible for the shrinking of skilled and qualified craftsmen in the construction industry, 71 respondents representing 38.6% agreed, 18 respondents representing 9.8% were neutral, 12 respondents representing 6.5% disagreed, while 10 respondents representing 5.4% strongly disagreed. The study results indicate that 89 respondents representing 48.4% agreed that lack of assessment of craft workers' training needs affects choice of career in construction trades, 56 respondents representing 30.4% strongly agreed, 14 respondents representing 7.6% strongly disagreed, 13 respondents representing 7.1% were neutral, while 12 respondents representing 6.5% disagreed.

4.6.1 Discussion of Problems associated with Career Choice in Construction Trades

These results are in agreement with Ying, (2009), he asserted that one of the greatest obstacles to implementing a quality training program for any organization is lack of funding. Contractors fear they will lose jobs if they include the cost of training in their bid packages. Trade associations cannot establish or implement training until they have a commitment from contractors to support and pay for training. Most training programs are funded either by charging student's tuition or by collecting contributions from employers on the basis of hours worked. A few programs are funded by a combination of both. Government budgets are usually the main source of financing for craft skills development in conventional training markets; especially pre-employment training, employers and trainees represent possible sources of funds to improve training outcomes. The levy system is the most common means of ensuring industry's involvement in training in both

developed and developing countries (Johansson, 2012; Ziderman, 2011; Clarke and Wall, 2008). Their weaknesses included deficiency in design, poor implementation or malfunction and that quite often the money raised was diverted to uses other than that for which it was intended. Sector or industry-based training funds offer an alternative to the centralised national funding model.

Moreover, Muya *et al.* (2014) reported a number of factors that influence skill availability, including training provisions, which govern the supply of skills; sector volume capacity, which drives the demand for skills; and other socio-cultural as well as public policy sector determinants of skills development. One efficient technique used to improve the capabilities of construction professionals is training. Farrell and Gale (2013) strongly recommended mandatory attendance at training programs for novice before they are allowed to take charge of construction sites.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The main objective of the study was to investigate the study of the choice of courses in construction trades, using Asuansi Technical Institute in Central Region as a case study. The study employed a case study research design. Quantitative research approach was used. The population for the study was four hundred and ninety-one (491). The population of the study was made up of construction students and tutors at the Asuansi Technical School in the Central Region of Ghana. The random and purposive sampling technique would be used to select 214 participants for the study. Questionnaire was the main research instrument used to gather information. Statistical Package for the Social Sciences (SPSS) was used to analyse data.

5.2 Major Findings of the Study

5.2.1 Choices of Courses and Training in Construction Trades

The study indicates that 32 respondents representing 18.2% were pursuing Building Construction Technology (BCT) (ranked 1st), 30 respondents representing 16% pursued architectural drafting technology (ADT) (ranked 2nd), 24 respondents representing 13% were studying electrical engineering fitting technology (ranked 3rd), 23 respondents representing 12.5% pursued plumbing and gas technology (ranked 4th), 22 respondents representing 12% pursued furniture construction and design technology (ranked 5th), 16 respondents representing 9% studied wood construction technology (ranked 6th), 12 respondents representing 6.5% studied welding and fabrication technology (ranked 7th),

10 respondents representing 5% pursued electrical engineering technology and motor vehicle technology respectively (ranked 8th), 8 respondents representing 4% studied mechanical engineering technology while 7 respondents representing 3.8% studied creative art technology.

5.2.2 Factors that Influence Students to Choose Specific Construction Trades.

The second objective of the study was to investigate the factors that influence students to choose specific construction trades. The study reveals that 40 respondents representing 21.7% affirmed that the motivating factor that influence career choice is the performance and ability to study construction trades (ranked 1st), 31 respondents representing 16.8% said that parents' cultural influences on subject choice influences students to choose specific construction trades (2nd), 28 respondents representing 15.2% indicates that the availability of educational materials influence career choice in construction trades (ranked 3rd), 23 respondents representing 12.5% revealed that good wages; salary, wages and conditions of Service influences career choice in construction trades (ranked 4th), 22 respondents representing 12% revealed that job security is a factor that influences career choice (ranked 5th), 17 respondents representing 9.2% indicated that promotion and growth in the organization affects career choice in construction trades (ranked 6th), 16 respondents representing 8.7% said that family and peers influences career choices in construction trades (ranked 7th), while 7 respondents representing 3.8% revealed that interesting work influences career choice in construction trades (ranked 8th).

5.2.3 Problems associated with Career Choice in Construction Trades

The third objective of the study was to assess the problems of career choice in construction trades. The study indicates that 90 respondents representing 48.9% agreed that narrow and static range of skills offered is the problem of career choice in construction trades. Furthermore, 63 respondents representing 34.2% agreed that restricted opportunity for learning to work effectively is the problem of career choice in construction trade. Moreover, 71 respondents representing 38.6% agreed that the minimal knowledge of materials (behaviour and characteristics) and processes may affect the quality, reliability and safety of use of the final product. Also, 82 respondents representing 44.6% agreed that the minimal theoretical knowledge and ad hoc curriculum erodes the necessary foundation for new skills thus making it difficult to learn. To add more, 76 respondents representing 41.3% agreed that lack of standardised training and independent testing makes it difficult to control the quality of the training.

The study results indicate that 68 respondents representing 37% agreed that there is a lack of appropriate scale of equivalence by which the knowledge and skills acquired can be externally vetted hence the competence of the graduates is difficult to vet. Also, 70 respondents representing 38% agreed that high cost of training craft skill is the problem of career choice in construction trades. Moreover, 66 respondents representing 35.9% agreed that one of the greatest obstacles to implementing a quality training program for any organization is lack of funding. Furthermore, 75 respondents representing 40.8% agreed that aging and retirement of craft skilled worker's affects is career choice in construction trades.

Moreover, 70 respondents representing 38% strongly agreed that craft training is insufficient to keep pace with the demand for qualified craft workers. Furthermore, 73 respondents representing 39.7% strongly agreed that aging and retirement have been repeatedly identified as a factor responsible for the shrinking of skilled and qualified craftsmen in the construction industry. The study results indicate that 89 respondents representing 48.4% agreed that lack of assessment of craft workers' training needs affects choice of career in construction trades.

5.3 Conclusion

The study concluded that the choice of courses in construction trades pursued were building construction technology (BCT), architectural drafting technology (ADT), wood construction technology (WCT), furniture construction, design technology (FCDT) creative art technology (CAT) and other related course were welding and fabrication (WFT), mechanical engineering technology(MET), electrical engineering technology (EET), motor vehicle technology (MVT) and plumbing and gas fitting technology (PGFT),

The factors that influence students to choose specific construction trades were the performance and ability to study construction trades, parents' cultural influences on subject choice, the availability of educational materials, good wages; salary, wages and conditions of Service, job security, promotion and growth in the organization, family and peers, and interesting work influences career choice in construction trades.

The problems of career choice in construction trades were narrow and static range of skills offered, restricted opportunity for learning to work effectively, the minimal knowledge of materials (behaviour and characteristics) and processes may affect the

quality, reliability and safety of use of the final product, the minimal theoretical knowledge and ad hoc curriculum erodes the necessary foundation for new skills thus making it difficult to learn, lack of standardised training and independent testing makes it difficult to control the quality of the training, there is a lack of appropriate scale of equivalence by which the knowledge and skills acquired can be externally vetted hence the competence of the graduates is difficult to vet, high cost of training craft skill is the problem of career choice in construction trades, the greatest obstacles to implementing a quality training program for any organization is lack of funding, aging and retirement of craft skilled workers affects is career choice in construction trades, craft training is insufficient to keep pace with the demand for qualified craft workers, aging and retirement have been repeatedly identified as a factor responsible for the shrinking of skilled and qualified craftsmen in the construction industry and lack of assessment of craft workers' training needs affects choice of career in construction trades.

5.4 Recommendations

According to the major findings of the study, the researcher recommended that;

- The Government of Ghana should invest more on the training of craftsmen. Master craftsman (foreman) should be encouraged and supported to train craftsmen on site in order to improve their training programmes and decrease their injuries rates and also to put an end to the problem of skill shortages.
- Frequent training of craftsmen should be seen as important strategy. Government in collaboration with professional construction regulatory bodies should make policies that will regulate craft skill training and certification in the construction industry.
- Technical institutes and construction companies should encourage the use of

traditional apprenticeship and on the- job training among the effective training methods for craftsmen in Ghana.

- Due to wide-spread acceptance of traditional apprenticeship and on the job training in the construction industry, it is recommended that a construction industry certification scheme be introduced to provide a unified basis for standardizing training and certifying the competencies of all craftsmen irrespective of their initial training background.

5.5 Suggestions for Further Research

Based on the recommendations of the study, the researcher recommended that a similar study should be conducted to assess the impact of traditional apprenticeship and on-the -job training in the construction industry.

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APPENDIX 1: INTRODUCTION LETTER

Asuansi Technical Institute

Post Office Box, 162,

Cape Coast.

19Th January, 2018.

The Principal,

Asuansi technical Institute,

Cape Coast.

Dear Sir,

REQUEST FOR PERMISSION TO ADMINISTER QUESTIONNAIRE AND CONDUCT INTERVIEW FOR ACADEMIC RESEARCH

I humbly write for permission to administer questionnaires and conduct interview for my Masters Degree Dissertation as part of partial fulfillment for the requirements for the award of Master Degree in M-Tech Construction Education.

The exercise will seek to assess the Factors Affecting the Choice of Courses in Building Construction Trades including the Traditional Building Courses such as, Building construction Technology, Wood Construction Technology, furniture Construction and Design Technology, Creative Art Technology and Architectural Drafting Technology. The study will also include the other building related courses such as Plumbing and Gas Fitting Technology, Electrical Engineering Technology, Welding and Fabrication Technology, Mechanical Engineering Technology and Motor Vehicle Engineering

Technology.

I intend to conduct the interview on the students and tutors in the above mentioned department and school management.

I hope my request will meet with your kindest consideration and approval.

Thank you.

Yours faithfully

Nicholas Akwesi Biney

BCT HOD

APPENDIX II

UNIVERSITY OF EDUCATION, WINNEBA

COLLEGE OF TECHNOLOGY EDUCATION, KUMASI

QUESTIONNAIRE FOR THE STUDENTS

This questionnaire is designed mainly to obtain information about the choice of courses in construction trades, using Asuansi Technical Institute in Central Region as a case study. Please answer the questions with honestly and sincerity, your responses to the questionnaire will be treated confidentially. Your cooperation is needed in order to achieve the objectives of the study. Thanks for your co-operation.

Section 1: Demographic Information of the Respondents

PLEASE TICK [√] THE MOST APPROPRIATE RESPONSE WHEN ANSWERING THE QUESTIONS BELOW.

Please tick [√] in the box where appropriate

1. What is your Gender?Please tick [√]

[ ] Male [ ] Female

2. Which of the age do you fall under?

[ ] 14 – 16 [ ] 17 – 18 [ ] 18 and above

3. Class of the student

Form 1 [ ] Form 2 [ ] Form 3 [ ]

Section B: The choices of courses and construction Training courses in construction trades at Asuansi Technical Institute.

1. What are your choices of courses in construction trades at Asuansi Technical

Institute? Please tick [√] in the box where appropriate

Programmes	√
Building Construction Technology (BCT)	
Architectural Drafting Technology (ADT)	
Wood Construction Technology (WCT)	
Plumbing and Gas Fitting Technology (PGFT)	
Furniture Construction and Design Technology (FCDT)	
Plumbing and Gas fitting and Technology	
Welding and Fabrication Technology	
Mechanical Engineering Technology	
Electrical Engineering Technology	
Motor Vehicle Technology	
Creative Art Technology	

Section C: The Factors that Influence Students to Choose Specific Construction Trades.

To what extent do you agree that the following factors influences the career choice of Technical students studying construction trades? Please rate using a scale of 1-5 where 1 represents strongly disagree, 2 represent disagree, 3 represents uncertain, 4 represents agree, 5 represents strongly agree.

5.The main motivating factors that influences career choice	**1**	**2**	**3**	**4**	**5**	**Total**
1.Performance and ability to study construction trades						
2.Family and peers						

3.Parents' cultural influences on subject choice.						
4.Good wages; Salary, Wages and Conditions of Service						
5.Job security						
6.Promotion and growth in the organization;						
7. Interesting work.						
8.Availability of educational materials						

Section D: The problems of career choice in construction trades.

Please use the following Likert scale to assess the problems of career choice in construction trades. Please rate using a scale of 1-5 where 1 represents strongly disagree, 2 represent disagree, 3 represents uncertain, 4 represents agree, 5 represents strongly agree.

Statement(s)	1	2	3	4	5
6.The narrow and static range of skills offered.					
7.Restricted opportunity for learning to work effectively.					
8.The minimal knowledge of materials (behaviour and characteristics) and processes may affect the quality, reliability and safety of use of the final product.					
9.The minimal theoretical knowledge and *ad hoc* curriculum erodes the necessary foundation for new skills thus making it difficult to learn.					
10.Lack of standardised training and independent testing					

makes it difficult to control the quality of the training.					
11.There is a lack of appropriate scale of equivalence by which the knowledge and skills acquired can be externally vetted hence the competence of the graduates is difficult to vet.					
12.High Cost of Training Craft skill					
13.One of the greatest obstacles to implementing a quality training program for any organization is lack of funding					
14.Aging and Retirement of Craft Skilled Workers.					
15.Craft training is insufficient to keep pace with the demand for qualified craft workers.					
16.Aging and retirement have been repeatedly identified as a factor responsible for the shrinking of skilled and qualified craftsmen in the construction industry.					
17.Lack of Assessment of Craft workers' Training needs					
18. Certification of Skills					

APPENDIX III

INTERVIEW GUIDE FOR THE TUTORS (OPTIONAL)

What are the choices of courses and construction training courses in construction trades at Asuansi Technical Institute?

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What are the factors that influence students to choose specific construction trades?

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What are the problems of career choice in construction trades?

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