UNIVERSITY OF CAPE COAST

FACTORS AFFECTING STUDENTS PARTICIPATION IN TECHNICAL PROGRAMMES AT THE SUNYANI POLYTECHNIC

BY

ALFRED NII MARTEY

Dissertation submitted to the Institute of Educational Planning and Administration of the Faculty of Education, University of Cape Coast, in partial fulfilment of the requirements for award of Master of Education Degree in Educational Administration

NOVEMBER 2010

DECLARATION

Candidate's Declaration

I hereby declare that this Dissertation is the result of my own original research and that no part of it has been presented for another degree in this University or elsewhere.

Candidate's Signature…… Date……

Name: Alfred Nii Martey

Supervisor's Declaration

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of dissertation laid down by the University of Cape Coast.

Supervisor's Signature……. Date……..

Name: Mr. Jeff Teye Onyame

ABSTRACT

Participation of students in technical programmes has been on the decline since the inception of the Sunyani Polytechnic in 1991. Enrolment in technical subjects was very high when it was a Technical Institute. The study which was a descriptive survey sought to investigate factors responsible for the low participation of students in technical subjects. It also looked for conditions that will encourage higher participation levels.

The study focused on factors affecting enrolment of students for various technical programmes in Sunyani Polytechnic, challenges facing Technical/Vocational Education and Training, effects of the problem and remedies to address the problems. A total number of 200 samples were drawn from Sunyani Polytechnic, Twene-Amanfo Senior High Secondary Technical School, Sacred Heart Junior High School, the Regional Technology Transfer Centre, and the Sunyani Garages. Instruments used in the collection of data were questionnaires, interviews, and analysis of documents.

The study revealed that low participation of students in Technical programmes in Sunyani Polytechnic was influenced by lack of interest, disregard for students who pursue technical programmes and lack of attention to technical vocational education in the country.

Conclusion drawn was that, technical education requires more attention and must be organised properly to attract more students especially in the polytechnics.

ACKNOWLEDGEMENTS

I wish to acknowledge all personalities who in diverse ways supported and encouraged me during the production of this dissertation. My special thanks go to my supervisor Mr. Jeff Teye Onyame, the Deputy Registrar, (Academic) of the University of Cape Coast for offering constructive suggestions and directions for the successful completion of this work.

I am indebted to Mr. Kofi Nyamaah Kuffuor, Mr. Kwaku Owusu and Mr. G. M. Tetteh for their encouragement. I am also grateful to Mr. Abraham Oko Tetteh and Mr. Amponsah Badu Isaac for allowing me to use their facilities to bring this work to fruition.

DEDICATION

To my dear wife Abena and my four children, Philo, Ivy, Millicent and George

TABLE OF CONTENTS

		Page
DECLARATION		ii
ABSTRACT		iii
ACKNOWLEDGEMENTS		iv
DEDICATION		v
LIST OF TABLES		x
CHAPTER		
ONE	INTRODUCTION	1
	Background to the Study	1
	Statement of the Problem	5
	Purpose of the Study	6
	Research Questions	7
	Significance of the Study	7
	Delimitation	8
	Limitations	8
	Definition of Terms	9
	List of Acronyms	13
	Organization of the Study	14
TWO	REVIEW OF RELATED LITERATURE	16
	History of Polytechnic Education in Ghana	17
	The Relevance of Technical Education for National Development	20

	Factors Influencing low participation of students in TVET	21
	The need for a well defined Structure of Technical Education	22
	People's Attitude towards TVET	24
	Technical/Vocational Education for Development	27
	Challenges	28
	Constraints confronting the (TVET) System	29
	Initiatives	31
	Effects of the Problem	34
	Interventions	34
	The role of the Polytechnic in Training the Youth	36
	Funding Technical Education	38
	The need for National Technical/Vocational qualification	40
THREE	METHODOLOGY	45
	Research Design	45
	Population	46
	Sample and Sampling Technique	46
	Research Instruments	48
	Pilot Testing of Instruments	50
	Administration of Questionnaires and Interviews	50
	Data Analysis Procedure	52

FOUR	RESULTS AND DISCUSSION	55
	Demographic Data	55
	Challenges facing TVET programmes	59
	Factors influencing low participation of TVET programmes	63
	Reasons for the low participation of people in apprenticeship training	66
	People's perception of VOTEC programmes	71
	Peoples' view on Technical/Vocational Education	74
	Measures to improve enrolment in Technical programmes in Sunyani Polytechnic	81
	Measures to be taken to encourage more apprentices to pursue vocational programmes	85
	Measures to improve enrolment of SHS/JHS students in technical/vocational programmes	86
FIVE	SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	90
	Overview of the Study	90
	Summary of Key Findings	91
	Conclusions	95
	Recommendations	98
	Recommendation for further Research	101

REFERENCES 102

APPENDICES 108

A Questionnaire for Academic Staff of Sunyani Polytechnic 108

B Questionnaire for Students of S-Poly 116

C Questionnaire for Apprentices 124

D Questionnaire for Master Craftsmen 129

E Questionnaire for JHS/SHS Students 136

F Three-Member Committee Report 139

G Interview guide 143

H Enrolment Trends 145

LIST OF TABLES

Table		Page
1	Enrolment of Science and Technology Subjects in some African Countries	36
2	Sample Size of Target Groups	47
3	Percentage of Questionnaire returned	52
4	Age and sex of respondents	56
5	The Beneficiaries of TVET Programme	58
6	Challenges facing TVET programmes	62
7	Factors influencing Low Participation in Technical Programmes	65
8	Reasons for the low participation of people in apprenticeship training	68
9	People's perception about Technical/Vocational programmes	73
10	Peoples' view on Technical/Vocational Education	74
11	How Low participation in Technical Programme affects National Development	76
12	Interventions to Improve Participation in TVET Programmes	78
13	Measures to Improve Enrolment in Technical Programmes in Sunyani Polytechnic	84
14	Measures to be taken to encourage more people to pursue vocational programmes	86
15	Measures to improve enrolment of SHS/JHS students in Technical /Vocational programmes.	88

CHAPTER ONE

INTRODUCTION

Background of the Study

The importance of science and technical education is underscored by the fact that it provides solutions to human resource problems and also helps to find solutions to needs of society. The manpower structure of every nation demands a large stock of trained workforce including skilled labour, craftsmen, technicians, and designers who together work to provide the infrastructural needs required for national development. It is the trained manpower that provides the workforce for infrastructural development and also the needed services to achieve economic development and stability.

There is less dependence on government for employment and funding in recent times because trainees who have the necessary entrepreneurial skills create jobs and employ people to work in industries. Technical education is therefore an investment with very high returns. It helps to solve unemployment problems when more jobs are created by trained manpower. Another important role of science and technical education is the opportunity to produce technicians who will support scientists to spearhead inventions, find solutions to problems and adopt foreign technology for local use.

A number of countries recognise technical colleges and polytechnics as the main institutions which are capable of training their citizens in science and technical programmes. Ofori-Bruku, (2005) states that, “The Fonab Polytechnic in Cameroon has the motto: “Technology is Power.” It also has the following mission statement*;* “To train students to develop skills that will make them able to work in industries and companies, teach in Technical and Commercial Colleges, create their own undertakings, and obtain higher professional qualifications.” (p.40).

In the United States of America, the roles of some renowned Polytechnics have contributed immensely to the socio-economic development of their powerful nation. This confirms the assertion that technology makes it possible for a nation to become powerful and also develop at a very fast rate. The California Polytechnic State University was founded as a vocational high school in 1901. It evolved into a two-year technical college in 1930 and became part of the professional fields, including agriculture, architecture, business, design, education, engineering, graphic communications and journalism. The Worcester Polytechnic Institute combine classroom study, laboratory research and hands on factory experience, to provide technical and professional training for men. According to Ofori-Bruku, (2005), it is a requirement for undergraduates in this leading institution to complete three independent projects in order to demonstrate their ability to apply classroom learning to practical problem solving skills. It houses a number of research centres, including the Metal Processing Institute, the centre for Intelligent Processing of Materials and

the centre for Wireless Information Network Studies. Robert Hutchings Goddard, a pioneering scientist in rocket engineering and Elwood Haynes, a designer of one of the first automobiles in the United States were graduates of the Worcester Polytechnic Institute. There is therefore no doubt that the total development of a nation depends on a sound science, technical and vocational education.

Ghana is yet to make any appreciable stride in technological advancement. As a developing country, she relies on imported technology for her developmental needs. The above observation puts great responsibility on polytechnics, technical institutes, and universities in Ghana. There is a misconception of technical education in Ghana. People view technical and vocational education as a choice for academically weak students who cannot pursue 'intellectualist' programmes and courses that are available in the universities. (Bokor, 2005).

This problem dates back to the colonial era in Ghana's history. Twum-Barima, (1976) stated that "This unfortunate aversion for Technical Education, thus engendered among the people has acted as a brake on development programmes in countries which lack the elementary skills for Technical development, but now abound in clerks and junior administrative personnel of doubtful efficiency and in most cases, possessing no sense of urgency". (p.24). He lamented that technical education has failed to keep pace with the development of secondary grammar school education. The urgency to reverse the trend became possible, and in 1960, the first Republic of Ghana came out

with an Industrial Development Policy which sought rapid technological progress of the newly independent country, Ghana. A glaring gap in the nation's manpower needs was recognised. Unfortunately, the universities were not producing skilled manpower that industry needed to move industrial development forward. As a result of this problem, three technical schools were established in Accra, Takoradi and Kumasi in 1963 to produce the needed manpower for industry. Five additional technical schools were later established in Ho, Tamale, Cape Coast, Koforidua and Sunyani. Sunyani Polytechnic was established in 1967 as Sunyani Technical Institute. In 1997, it was upgraded to a tertiary institution. The aim was to produce middle level manpower to fit in establishments such as commerce, industry and technology. The Polytechnic since its establishment, has trained students at both the tertiary and non-tertiary levels. It has also witnessed significant improvement in terms of access, supply of logistics, provision of infrastructure and more efficient use of resources. These technical schools were redesignated as polytechnics in 1993, under the Polytechnic law of 1992 (PNDC law 321) with the following aims and objectives.

(i) To provide tertiary education through full time courses in the field of manufacturing, commerce, science, technology, applied social science and applied arts.

(ii) The polytechnics are also encouraged to offer courses in technical subjects at the tertiary level, and to provide opportunity

for development, research and publication of research information.

Programmes offered by the polytechnics are career focused. In the Sunyani Polytechnic, Higher National Diploma (HND) programmes are offered in electrical/electronic engineering, building technology, hotel catering and institutional management, accountancy, marketing and secretaryship and management studies. The following are non-tertiary programmes offered by the polytechnic: Carpentry and Joinery (C&J Advanced level), Furniture Craft (FC Advanced level), Painting and Decorating (P&D Advanced level) and Mechanical and Automotive Engineering (MAE. Advance level).

Statement of the Problem

Participation of students in some of the technical programmes in Sunyani Polytechnic is very low in recent times. The problem was observed after the Sunyani Technical Institute was upgraded in 1997 to a polytechnic status. The average enrolment of students in both Furniture Craft (FC) and Carpentry & Joinery (C & J) part-time programmes was 58. The average enrolment of students in the full-time section during the same year was 55. Participation in the technical programmes was therefore encouraging. (Refer to appendix H). After the inception of the polytechnic, drastic reduction in enrolment of students from 1999 to 2008 was recorded in both F/C and C & J programmes. The average enrolment for the period in the same programmes was 34. (Refer to appendix J).

Comparatively, enrolment during the Technical Institute period was higher than that of the Polytechnic period. Participation of students in the polytechnics to learn hands-on trade is crucial at this stage of the country's development.

The problem of low participation of students in technical programmes in Sunyani Polytechnic need prompt attention in order to save the affected departments from collapse. It is therefore necessary to identify the factors that are responsible for the low participation of students in technical programmes at the Sunyani Polytechnic.

Purpose of the Study

The need to produce technical and professional manpower in adequate numbers to meet current challenges for sustainable national development depends on the polytechnics, the technical institutions and the universities.

This study was therefore designed to explore the factors responsible for the low participation of students in technical programmes offered at the Sunyani Polytechnic. It was intended to find out what conditions need to be created to encourage higher participation levels. Attempts were also made to examine the challenges facing the Sunyani Polytechnic in recruiting eligible candidates from the various technical institutes and second cycle institutions to pursue technical programmes.

Research Questions

The study sought to find out answers to the following research questions.

1) Who are the beneficiaries of TVET programmes?
2) What are the challenges facing technical and vocational education and training?
3) What factors affect enrolment of students into the various technical programmes in Sunyani Polytechnic?
4) What are people's perceptions about technical education in Ghana?
5) How can low participation of the youth in technical programmes affect the development of a nation?
6) What measures can be used to improve participation of students in technical programmes at the Sunyani Polytechnic?

Significance of the Study

It is anticipated that findings of the study will prompt Polytechnic administrators to pay serious attention to the problem. It will help them to explore appropriate strategies to promote the increase in the number of students who pursue technical programmes at the Sunyani Polytechnic. It will further enhance people's perception about technical education and encourage them to develop interest in participating in technical programmes. The findings will also help curriculum planners to review syllabi of courses drawn for technical

programmes to meet current challenges in order to entice students to participate in them.

Delimitation

The research focused on the Sunyani Polytechnic community and the Sunyani Municipal area. In order that the researcher would complete this work on schedule, an in-depth study of the peculiar problems affecting the following departments was carried out; The Painting and Decorating Department (P&D) Furniture Craft / Carpentry & Joinery Department (FC/C&J) Mechanical and Automotive Engineering Department, (MAE), Electrical /Electronic Department (E.E) and the Building Construction Section (BC). However, other areas within the Sunyani metropolis like the Regional Technology Transfer Centre (RTTC) and the Garages of Sunyani near the Sunyani Polytechnic were also involved in the study. Sacred Heart J.H.S and Twene Amanfo Senior High Technical School were also involved in the research. Trainees of the training centres and students of both the 1st and 2nd cycle institutions were considered in the study because they constitute a group of trainees/students who could be prepared to pursue technical programmes at the polytechnic.

Limitations

The following situations which were beyond my control placed restrictions on the conclusions of the study: Apprentices at the Regional Technology Transfer Centre at Sunyani were not allowed to divulge certain kind

of information voluntarily for fear of exposing some weaknesses of the training centre. Some of the questionnaires could not be retrieved after several attempts to collect them by the researcher. The training officers were also reluctant to release their questionnaires on the pretext that they had misplaced them. Fresh questionnaires were therefore supplied, and the researcher collected them after two days. It was later disclosed that they were studying the questionnaire in order not to incriminate themselves. The nature of the academic calendar of the Sunyani Polytechnic created difficulties for me.

Definition of Terms

(a) **Apprenticeship**: Is a form of long term training for a trainee given by an employer in a recognised occupation. It is carried out within an undertaking and regulated by statutory law or custom according to an oral or written contract which imposes mutual obligations on the two parties concerned.

(b) **Sunyani Magazine:** the garages at Sunyani.

(c) **Off-the-job Training:** is a form of training under the auspices of an undertaking which has been either arranged off the premises or, if given on the premises, organised in an area (training workshop, classroom etc) specially equipped for training purposes.

(d) **On-the-job Training/hands-on-Training:** Training within an undertaking which has been arranged at an ordinary work place and uses actual jobs of commercial value for instruction and practice.

(e) **Training centres:** Any installation organised and staffed so as to serve an exclusively training function. Such centres might be under the jurisdiction of a ministry of employment or labour or might be financial and run by an enterprise or group of enterprises.

(f) **Technical Education:** Education designed to be pursued at the Junior high school, Senior high school and the lower tertiary levels to prepare middle-level personnel (technicians, tradesmen and middle management personnel etc) and at the polytechnics and university levels to prepare engineers and technologists for higher management positions. Technical education includes general education, theoretical, scientific and technical studies and related skills training. The components of technical education may vary considerably depending on the type of personnel to be prepared and the education level.

(g) **Vocational Education:** Education designed to prepare skilled personnel at lower levels of qualification for one or a group of occupations, trades or jobs. Vocational education, usually provided at upper secondary level includes general education, practical training for the development of skills required by the chosen occupation and related theory. The proportions of these components may vary considerably but the emphasis is usually on practical training.

(h) **Technical/Vocational Education (General):** Is part of the general education curriculum which introduces pupils to the elements of technology, in order to provide them with the role of technology in contemporary life

and permit them to develop basic practical skills of general skills in the manipulation of simple tools and materials. It is usually offered at the lower secondary level or may continue to be offered throughout secondary education. However, it is not intended to prepare young people for a specific occupation.

(i) **Technical and Vocational Education (Occupation oriented):** Is designed to prepare students for employment which is usually specialised in nature and more practically oriented than the technical and vocational general type of education. This type of education is usually provided within the educational system, but may be combined with training and employment. It is designed to import broad knowledge and develop essential skills in a chosen occupational field but is preparatory in nature. The student does not normally qualify for a specific position or job within this field.

(j) **Technical and Vocational Education (for continuing Education):** Covers all forms of technical and vocational education – formal or non-formal which permit the adult to update or improve knowledge and skills in his occupational field to attain higher levels of Education and qualification required for a new occupation.

(k) **Technical school:** Any educational institution – generally at secondary level which offers programmes of technical education mainly at the training of middle level technicians. These programmes are often very similar to those usually offered in Vocational schools since the distinction is rarely made between French vocational and technical schools. In the French system, the

(l) **Post-Secondary Technical Institutions:** Are institutions which offer programmes of technical education, designed for completion at the end of the first cycle of tertiary education; for example – Training programmes for higher technicians at the polytechnic level.

(m) **Instructor:** A person responsible only for practical instruction within a given programme of technical education. Instructors are usually good professionals who do not possess the academic credentials required of teachers.

(n) **Technical Teacher Educator:** A person responsible for professional preparation and/or the in-service training of technical and vocational teachers. The titles and qualifications required for technical teacher educators may vary from one education to another, but they are usually university graduates.

(o) **Technical qualification:** Refers to the type of certificate or degree award after graduating in one form of technical programme or another. In Ghana there are technical programmes leading to the award of certificates at the pre-tertiary level of education. Examples are National, Vocational and Technical in NVTI, OTD, and CTC. At the tertiary level we have technician

part III, HND, CBT. EE. Mechanical Engineering and Building Technology (B-Tech.)

(p) **White-Collar Job:** Office work, clerk, messenger and administrator.

List of Acronyms

C&J:	Carpentry & Joinery
G.E.S:	Ghana Education Service
G.N.A	Ghana News Agency
F.C:	Furniture Craft
H .N .D	Higher National Diploma
NACVET:	National Coordinating Committee for Technical and Vocational Education and Training
P.N.D.C:	Provisional National Defence Council.
S.T.M.E:	Science Technology Mathematics Education
TVET:	Technical and Vocational Education and Training.
T .E.S:	Tertiary Education Services
U.R.C:	University Rationalisations Committee
JEM:	Journal of Educational Management.
UNESCO:	United Nations Educational, Science and Cultural Organisation.
V.S.P:	Vocational Skills and Informal Sector Support Project.
E.E	Electrical Engineering
C.T.C	Construction Technicians Certificate
VOTEC:	Vocational and Technical

NVTI: National Vocational Training Institute

TALIF: Teaching and Learning Innovation Fund.

NCVQ: National Council for Vocational Qualifications

SHSTS: Senior High Secondary Technical School

J.H.S: Junior High School

O.T.D. Ordinary Technicians Diploma

H. O. S. D Hands on Skills Development

Organisation of the Study

The study is organised into five main chapters. The first chapter gives the background to the study and also highlights such issues as the statement of the problem, the purpose, significance, delimitations, as well as limitations of the study. The research questions that guided the study are also dealt with in this chapter.

The Second Chapter is devoted to the review of both theoretical and empirical literature relating to the subject while the Third Chapter discusses the methodology for conducting the study. Issues such as population, sample, and sampling procedure, research design, research instruments, administration of instruments, problems I encountered in the process of collecting data and the data analysis procedure were discussed.

Chapter Four focuses on the presentation, analysis and discussion of the data gathered from the field while Chapter Five, the final chapter, provides a

summary of the study and also discusses the findings of the study. Conclusions and recommendations of the study are made.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter contains a review of literature relating to polytechnic education and national development, challenges of technical education in Ghana, and measures to promote technical education especially in the polytechnics. The literature is reviewed under the following sub-headings:

1. History of polytechnic education in Ghana.
2. The relevance of technological education for national development.
3. Constraints confronting the (TVET) system.
4. Factors influencing low participation of students in technical programmes in Ghana.
5. The need for a well defined structure of technical education.
6. People's attitude towards technical/vocational education.
7. Technical/vocational education for development.
8. Challenges
9. Inadequate initiatives.
10. Effect of the problem.
11. Interventions
12. Initiatives
13. The role of Polytechnics in training the youth.

14. Funding technical education.

15. The need for a national technical/vocational qualification.

History of Polytechnic Education in Ghana

In 1963, three technical institutes in Accra, Kumasi and Takoradi were upgraded into polytechnics. No legal backing was provided, facilities and staff were also not upgraded to meet the needs of the new status of the polytechnics. The Tamale Technical Institute was upgraded in 1984 and the Ho Technical Institute also upgraded in 1986. However, Cape Coast Polytechnic was established as a new institution. The polytechnics operated as second cycle institutions under the Ghana Education Service. The Government of Ghana constituted in 1987, a University Rationalisations Committee (URC) to evolve proposals for reforming the management, academic structure and funding of tertiary education in Ghana. As a result, a white paper was issued in 1991 by the government. Eventually, the number of polytechnics in Ghana increased from six to eight. This led to the re-designation of Sunyani Technical Institute to Sunyani Polytechnic and the establishment of Koforidua Polytechnic. Currently, there are ten polytechnics in Ghana, one in each regional capital. The other two polytechnics are located in Wa and Bolgatanga.

The polytechnics were established to provide career-focused education and skills training to students. The objectives of polytechnic institutions as stated in PNDC Law 321 are:

1. To provide full time courses in the field of manufacturing, commerce, science, technology, applied science, applied arts and such other areas as may be determined by the authority responsible for higher education.
2. To encourage students to study technical/vocational subjects from the basic level to the tertiary level.
3. Provide opportunity for development, research and publication of research findings.

Since the upgrading of polytechnics to tertiary status in 1993, a number of problems have emerged as a result of the hasty nature of the implementation. It has been confirmed by Effah, (2005) that, the polytechnics were hastily upgraded to tertiary status without putting the necessary facilities and measures in place before their implementation. The required minimum resource necessary for the upgrading was not met. The requisite facilities were not provided and qualified staffs were not recruited. There is therefore no doubt that this situation has had adverse effect on the quality of polytechnic education in Ghana. Some of the critical problems the polytechnics are facing include the need for adequate academic and support staff, appropriate facilities and physical infrastructure, and high staff turnover. Staff recruitment is a big problem because the polytechnics have to compete with industry for qualified personnel. Unfortunately industries have advantage over the polytechnics in recruiting staff because they possess more attractive working conditions and better salary. Nsiah-Gyabaah & Arthur (2005) observed that the polytechnics have been noted as places of instability of academic stability. They have become synonymous with strikes by the teaching

staff, non-teaching staff and students. As a result of the problems in the polytechnics an array of effects may emerge. However, it may be premature to catalogue a number of effects without an in-depth analysis of the situation.

In another white paper on the report of the Education Reform Review Committee, 2004, the polytechnic objectives have been reinforced. It states that "Government will continue to equip the polytechnics to make them offer tertiary education in their own right, to emphasize practical skills that are needed to run the productive economy and build a nation. (Effah, 2005 p.19). He further echoed Government's commitment to promote hands-on experience undertakings and resource the polytechnics to enable them offer degree programmes.

As a result, a new Polytechnics Act, 2007 has been passed. The ten polytechnics in Ghana are public tertiary institutions and have been given academic autonomy. Their objectives are to;-

(1) Provide tertiary education in the fields of manufacturing, commerce, science, technology, applied social science, applied arts and any other field approved by the Minister, and

(2) Provide opportunities for skills development, applied research and publication of research findings.

The polytechnics have been empowered to run courses leading to the award of;

(a) Higher National Diplomas, Diplomas and other certificates accredited by the National Accreditation Board.

(b) Award degrees subject to the conditions that the council of that polytechnic may determine;

(c) Make provision for the general welfare, recreational and social needs of polytechnic staff and students and

(d) Exercise powers that are incidental to the performance of the object and functions of a polytechnic under this Act. (The Polytechnic Act, 2007, Act 745)

The Relevance of Technological Education for National Development

Budu-Smith, (2005) emphasizes that technical and vocational education is a major agent for industrial development and economic and social progress of any country. Without the skilled technical manpower produced by the polytechnics, technical and vocational institutions for industry, commerce and agriculture, national development would virtually grind to a standstill. (A paper delivered at the 2005 End of Year Sunyani Polytechnic Council Meeting).

Indeed it is a fact that people with the requisite scientific and technological Education and technical skills are those who can create wealth and help a country to attain economic prosperity. In the context of this realisation, technical and vocational education and training (TVET) has been recognised as

constituting a vital segment of Ghana's educational system and human resource development.

There is however lack of attention given to technical and vocational education and training in Ghana. In order to contribute effectively to national human resource development needed for the establishment of a skilled and productive workforce for Ghana's socio-economic development, Technical and Vocational Education and Training must be given special attention. Budu-Smith (2005) observed that the TVET system has remained practically the same in content and delivery over decades with its curriculum being institution – based and supply-driven. The curriculum is generally regarded as being out of date and not responding to the needs of trainees and demands of industry and the labour market. According to him, the mismatch between institutional training and the needs of industry has serious implications especially on the polytechnics and technical institutions and Ghana's economy ultimately.

Factors Influencing Low Participation of Students in Technical Programmes in Ghana

The main known reason for the low participation of students in technical and vocational education and training is the initial emphasis on Liberal Arts Education by our colonial administrators. They needed more administrators and not technologists for the smooth running of their colonies. They therefore concentrated on Liberal Education more than technical education (Twum Barima, 1976 p.19). In recent times however, developing countries have realised

that scientific, technological and mathematical education is acknowledged as the magic wand required for the breeding of scientists and technical manpower needed for accelerated industrial development (Bokor 2005).

Other factors include the absence of a clearly defined structure of technical education in Ghana, people's negative attitude to technical education, inadequate funding of technical education and lack of entrepreneurial skills for technical school graduates to create jobs. These problems do not stimulate others to venture into technical training.

The Need for a Well Defined Structure of Technical Education

The need for a well-structured technical programme from the basic educational level to the tertiary level is long overdue. According to Anamuah-Mensah's (2002) report of the President's committee on review of Education Reforms in Ghana, there is a serious deficiency in the present public educational system as a result of the neglect of the technical and vocational educational and training sub-sector. The reforms introduced in 1987 ignored completely the TVET sub-sector. The result of this neglect is the poor condition of the infrastructural and training facilities of the institutions, the outdated training content and inadequate number of institutions. It is obvious that this has contributed to low trained national workforce and poor quality technicians. There is no provision of academic progression for the technical school graduate. Core subjects like English, Mathematics and Science are not integral parts of the

curricula for technical programmes in the technical and vocational institutes. However, these subjects form part of the basic requirements when entering tertiary institutions. This makes progression impossible and the serious minded technical school graduate has to overcome that problem by writing additional exams in the essential core subjects in order to qualify to pursue tertiary education.

These inconveniences coupled with financial and outdated training equipment discourage most people from enrolling to pursue TVET programmes. At the Sunyani Polytechnic, the situation is not different, the non-tertiary programmes, use the same curricula as the technical institutes. The machines are also very old and even some are not functioning. These are potential issues that can affect enrolment. Furthermore, there are only 27 technical institutes and 29 vocational institutes as against 474 senior secondary schools in the country. It is therefore obvious that enrolment for advanced technical programmes in the polytechnics will still not be encouraging because of inadequate technical institutes to train students.

The need for a well-structured TVET programme stems from the fact that about 60% of JSS leavers fail to gain admission into senior secondary schools and also have limited alternative opportunities for further development and progression. In addition to that, the Universities are able to absorb only 10% of any batch of SSS leavers. It is gratifying to note that it has been proposed by the Anamuah-Mensah's report that – there should be well-developed streams of

technical and vocational education and training after basic education. The recommended structure should be;

(1) A 3-year craft/business studies programmes at the first level leading to craft certificates/Ghana business examination certificate for the world of work or for progression to the second level programmes.

(2) The next level programmes consist of a 3-year technician programme, 2-year business studies leading to technician certificate (Part I, II, and III) or diploma in business studies. Holder of technician certificate Part II and III and diploma in business studies qualify for progression to the polytechnics.

It has also been recommended that government should make a major shift in its State Education policy in favour of the TVET sub-sector, in order to build the nation's stock of human capital and give employable skills to the numerous youth all over the country. (Anamuah-Mensah et al., 2002).

People's Attitude towards Technical/Vocational Education and Training (TVET)

Another serious issue affecting low participation of the youth in technical programmes is the attitude of the Ghanaian towards TVET programmes. Many people accord more respect to office workers than those who do manual work. According to Annoh, (1997) technical education was unpopular and was left in the background due to the notion that it was meant for

the unfortunate and people who are not clever enough to do serious academic work. Finniston (1985) describes this notion as a crisis, and Hansen (1957) confirmed that the crisis of the place of technical education is long standing.

For various reasons, ranging from poor financial constraints to poor academic performance, school drop outs had no choice but to console themselves with apprenticeship training in technical and vocational programmes in order to earn a living. A lot of people therefore paid little attention to technical training programmes and pursued grammar school education.

The consequence of the problems stated previously was vividly reviewed by Twum-Barima (1976) when he explains that technical education failed to keep pace with the development of secondary grammar school education, according to him, the net psychological outcome was a general depreciation of technical education. A comparative study by Education for all Global Monitoring Report in 2008 reveals that enrolment in TVET programmes in sub-Saharan Africa is very low (6%) while in the pacific it is very high (32%). It is 19% in Central and Eastern Europe, 15% in North America and Western Europe. In South and West Asia it is only 2% and the Caribbean 3%.

Though the study seeks to unearth the reasons for the low participation of students in technical programmes at the Sunyani Polytechnic, it will not be out of place to note the setbacks of the slow development of technical education and its effect on development. Twum-Barima (1976) sounded a word of caution that if a country fails to pursue the elementary skills for technical development,

there will be a decline in its development programmes. There will also be proliferation of clerks and junior administrative personnel of doubtful efficiency who possess no sense of urgency. It is interesting to note that Ghanaians to some extend fall into this category of people who do not value technical education. There are a lot of school graduates and dropouts who do not possess skills that can motivate them to become gainfully employed. According to Freiku, (1998), parent's attitude to their wards pursuing courses in technical education is not encouraging. He explained further that some parents claim that their wards may end up becoming welders, brick-layers and carpenters. This shows that some parents underrate the technical programmes offered at the second cycle institutions. It is therefore important to help parents to change their attitude by convincing them to encourage their wards to pursue technical programmes in the schools and apprenticeship centres.

It is highly scandalous when academicians admit that technical and vocational disciplines are of less importance than liberal education. Akordor, (2008) observed that the technical profession do not attract the right calibre of scholars due to the unfortunate mentality that it is for low achievers. He further warned that no profession should be taken for granted in this computer age, and we should see technical education as important part of our national development agenda. Some few problems that militate against the promotion of the TVET programme for national development has to be eliminated to pave way for individuals to have interest in pursuing technical and vocational programmes.

Hawkins (1973) stated that, 'the academicians rank above the practical workers, when defining social hierarchy' Chiet (1975) also claims that 'people believe that liberal education is general unspecific and therefore free ranging. It is however useful and superior to technical or vocational disciplines because they are reserved for the less talented. He further explains that technical and vocational subjects are pursued by people in the lower class. This notion is shared by a lot of people who probably belong to the upper or middle class on the social hierarchy. However, Adjei Badu (1989) argued that "…the antithesis between technical education and liberal education is fallacious. There can be no adequate technical education which is not liberal and no liberal education which is not technical". The implication therefore is that there is no form of education which does not impart both technique and intellectual vision. Both forms of education are unique and beneficial to the development of society.

Technical/Vocational Education for Development

The importance of technical and vocational education in national development cannot be over emphasised. It is widely accepted that training in the liberal arts is essential but must be complemented with sound science, technical, vocational training and education to enable us to develop the skills that will make us independent. Dzomeku (2008, October 03) attributed the high technical development of some Asian countries like China, Malaysia and Korea to the high premium on science and technology in their educational system. The need to train the youth so that they will be able to use their brains and hands

effectively to produce the things that we need to make life more comfortable cannot be overemphasized.

Science and technology have meaning only when theories are translated into practice or when strategies are reduced to tactical plans. It is gratifying to note that in recent times, there are calls by advocates, churches and media personnel on the government and policy makers to put technical and vocational education and training at the core of our development. This may be due to a number of problems that the nation is facing as a result of the type of education in this country.

Challenges

Our educational system cannot cope with the challenges facing school leavers. A critical look at the pre-tertiary exit points in the educational structure reveals that, at the first exit point, about 70% of the Junior Secondary School children leave the formal educational stream. At the second exit point, out of the remaining 30% who continue in the Senior Secondary School, about 70% leave at the second exit point after SSS 3; this leaves barely 30% that is 9% of the total JSS 3 enrolment to seek admission to the various tertiary institutions. It is alarming to note that these school leavers have not been given adequate education and training to be immediately employable or become self-employed. As a result Kwami & Ing (2001) concurred that “The large number of inadequately prepared school leavers at the pre-tertiary level is a serious waste

of human resource and a frightening deficiency of the educational system". (p.12).

Constraints confronting the TVET System

Constraints confronting the TVET system which were identified by the president's committee on review of education reforms in Ghana in 2002 include:

1) Lack of a national policy framework to guide the management and implementation of Technical Vocational Education Training (TVET) programmes in a coordinated manner.
2) Poor resource allocation to the TVET programmes resulting in obsolete and inadequate training equipment and tools.
3) High cost of training materials
4) Inadequate qualified Instructors with requisite industrial practical experience.
5) Lack of collaboration between training institutions and industry
6) Lack of relevance of institutional training to the needs of industry

The need for a national policy framework to guide the implementation and management of Technical and Vocational Education and Training is long overdue. In Ghana, the policy on Education is the 6 – 3 – 3 – 4 system. Primary education is six years, Junior Secondary School is three years and Senior Secondary School is three years. The report of the 2004 Review Committee has added two years kindergarten pre-school education. However the Government has further increased the three year secondary education to four years making

the structure – 2-6-3-4-4. The Junior Secondary School is now known as Junior High School (J.H.S) while the Senior Secondary School is now called Senior High School (S.H.S).

According to Fabunmi (1999) the policies place emphasis on the teaching of Science Technology and Mathematics Education (STME). He cited Nigeria as a typical example where secondary schools place premium on mathematics, integrated science and introductory technology i.e. pre-vocational subjects at the junior level. In the senior secondary school, the core subjects include mathematics, a science subject (at least one of biology, chemistry, and physics) and a vocational subject from the following options – agricultural science, electronics, auto mechanics, building construction, applied electricity, home management, metal work, shorthand, typewriting, clothing and textiles, foods and nutrition, technical drawing, woodwork and visual art. However, in Ghana, student participation in technical programmes is very low.

Bukari (2004, December 24) observes that the proposed changes of the former system which have been attributed to the Anamuah - Mensah's committee's recommendations are not the solutions to the decay. He rather cited over–crowding in the classrooms and lack of good physical structures like school buildings, laboratories and workshops as the main basic issues to tackle. He recommended effective supervision of schools in order to make successful improvement in the education system and motivate teachers.

Sam (2006, May / June) expressed her joy for the fact that vocational and technical training for skills development were gradually gaining recognition as

the key to industrial development. She however debunked the notion that vocational and technical schools were for those who could not make it to the grammar schools.

Initiatives

The public technical institutions are able to offer comparatively an insignificant enrolment for the further development of school leavers. The National Coordinating Committee for Technical and Vocational Education and Training (NACVET) is yet to make an impact in intervening in the problem of TVET in the educational system. Progress is slow. It has introduced a Vocational Skills and Informal Sector Support Project (VSP) with the assistance of the World Bank. The Vocational and Technical (VOTEC) Resource Centres also have problems like, low patronage, lack of funding to support production and lack of respect for their students. The National Vocational Training Institute (NVTI) under the Ministry of Employment and Social Welfare has been active in this field. The recent one is the introduction of the National Youth Employment Programme. All these initiatives are just inadequate to cope with the large numbers of the wasted youth.

There is an on-going Dutch project to train teachers for technical schools at the University College of Education and the Polytechnics. The Netherlands and the Government of Ghana are jointly sponsoring the rehabilitation of 20 vocational and technical institutions at the cost of $12 million (Esser, 2001).

Asenso- Okyere (2004) revealed that the University of Ghana is revising its curriculum to meet the demands of industry, commerce and agriculture. He stressed that instead of straight lecturing, emphasis will be placed on problem – solving. He urged students to take up entrepreneurship development courses so that they will become more productive.

The following are documented initiatives found in the policies and strategic plans for the education sector to upgrade and extend technical and vocational education and training and also cater for out of school drop-outs.

a) Allocating more resources to Technical Institutes

b) Increasing number of places in technical institutes

c) Offering more pupils higher quality technical education

d) Increase the number of technical institutes.

e) Develop incentives for basic school leavers to select technical institutes.

f) Provide employable skill training for disabled and disadvantaged groups**.**

g) Linkages with the vocational technical training providers should be strengthened.

h) A system of capitation grants for out of school youth to pursue training must be established

i) Linkages between education, training and employers must be developed and strengthened.

j) Teachers must be placed in selected industries to develop more industrial skills.

k) Students must be placed in selected industrial establishments to develop experience.

l) Establish Trades Advisory Committees.

m) Organise industrial visits for students

n) Organise system of guest lecturers from industry in training institutes.

Improving TVET curricula and teacher training by:

a) Ensuring that Junior High School pre-vocational skills and pre-technical skills options are offered in every school and made compulsory.

b) Introduce entrepreneurship training and support

c) Strengthen the certification system of technical vocational education and training.

d) Provide training and production equipment.

a) Upgrading TVET teacher training facilities

b) Improving supervision in TVET teacher training colleges.

There is an urgent need to take pragmatic initiatives to equip the huge number of pre-tertiary school leavers with employable skills. It is on record that over 180,000 unemployable Junior and Senior Secondary School leavers churn out to fend for themselves every year. It is estimated that in 10 years time about 1½ million unemployed or severely under employed young boys and girls,

young men and women in their prime years, between the ages of 16 and 29 will graduate into the world of life. (Kwami & Ing 2001).

Effects of the Problem

Illiteracy is the most important factor in holding back economic development in developing countries. Our under employed youth is a workforce who lacks vocationally oriented skills and is therefore holding back our economic development. They are engaged in roadside hawking, menial jobs, pick-pocketing and even armed robbery. They lack direction and focus. The situation is dangerous and until something is done to arrest the situation it will worsen. Kwami & Ing (2001) lamented that, '…we did not provide them with enough knowledge and made them poor. We did not discover their talents and lost their contributions to the economy'. (p. 14). The effect can lead to serious threat to social peace and security.

Interventions

In 1998, a science and technology policy was formulated in Parliament, which was to give direction in lifting Ghana to the middle-income status by 2020. Andam (2005) emphasized that science and technology is the only vehicle that can lift Ghana to the middle-income status. It is time for Ghana to develop the technical institutes and the polytechnics so that they will be able to absorb all severely unemployed school-leavers to train as artisans, tradesmen, technicians and middle management personnel for our industries. A 1995 study by

UNESCO revealed that Ghana is behind countries like Tanzania, Uganda and Kenya in the tertiary level enrolment of science and technology subjects. Ghana used to train engineers in some of these countries in the sixties and seventies as shown in Table 1.

Table 1

Enrolment of Science and Technology Subjects in some African Countries

Developing Countries	Total Students	% Of Population	Technical Subjects	Natural Sciences	Mathematics	Engineering
Kenya	31,300	0.115	4600	3600	-	1000
Tanzania	12,800	0.043	3600	800	100	2700
Uganda	27,600	0.140	2600	800	300	1500
Ghana	9,600	0.055	2100	1200	200	700

The Role of Polytechnics in Training the Youth

The momentum of the technological revolution creates rapid and disruptive changes in the way in which people live, work and play. As the pace of technological academic shows no sign of slowing, the challenge for the Polytechnics in Ghana is to evolve strategies that will encourage school leavers to enrol and pursue practical oriented training programmes. Their training programmes should be able to help learners to adapt to changes with the minimum of physical and mental stress. In order to make this possible, Bell & Aris (2005) noted that the learning systems and those who manage them must prepare the students to work with new technologies competently and confidently. They need to expect and embrace constant changes to skills requirements and work patterns, making learning a natural lifelong process. According to Harbison (1973) developing the human resource will maximise continuous recurrent learning opportunities throughout man's working life,

which are relevant for more productive employment. In order to promote technology and vocational education for national development there should be improvement of the skill and knowledge by generating capacity of working environments. Dzomeku (2008, October 03) observed that the polytechnic graduates need to be supported to establish garages to service new vehicles by using modern and decent procedures.

There should also be provision of productive training services for adults and school leavers in related broadly-based formal educational programmes which, while not oriented to producing specific skills, would develop at all levels perceptive and knowledgeable persons capable of entering the widest possible range of occupations.

Thirty-one years ago, Twum-Barima (1971) echoed that the polytechnic should be the university for the practical minded. He therefore proposed the name 'Polyversities'. It is worthy to note that liberal education is not being condemned. Rather it is appropriate to propose complementary systems, which are desirable, and are being advocated for development paripasu as a means of servicing our development process. The benefits of educating the practical minded will be enormous. It will satisfy the interest of those whose special interests do not lie in the more academic subjects. It will also help to solve the unemployment problem and control the migration of the youth to the cities. It will encourage people to create jobs and open job opportunities for others. It will reduce the over-dependence on the government for jobs. More wealth will be created. There will be more revenue to fund government projects. Indeed

polytechnic education is vital in achieving total development. Ghana will be wealthy if we are able to keep all our young people (18 to 21 years) in employable skill training programmes and ensure that the requisite skills are acquired by an ever-increasing proportion of the population.

Funding Technical Education

People perceive technical/vocational education as very expensive and non productive. Harbison (1973) observed that, the expenditures for vocational schools are many times higher than that of general secondary schools. The earlier we start thinking of investing heavily in technical education in order to deliver productive ventures the better. The focus should be on how to use equipment and resources to produce, invent or improve upon existing products. There is therefore the need to provide modern equipment and tools for training and production. Income – generating activities should be evolved so that more money could be recovered to keep the training programmes going.

Some main setbacks that threaten the survival of training programmes include lack of machine maintenance schedule, lack of funding maintenance cost and lack of procuring new machine tools and new equipment. These challenges may eventually render a programme unproductive. The survival of a technical/vocational programme depends on the generation of funds to support the programme. In a fact-finding report at the FC/C&J department of the Sunyani Polytechnic, it was observed that most of the machines are outdated and cannot function properly. The situation is critical because there are no funds to

purchase new machines. Today, there are opportunities for the polytechnics to depend on for funding. One of such windows is the Teaching and Learning Innovation Fund (TALIF). It is gratifying to note that a proposal on improving the human resource and physical facilities in the Furniture Craft/Carpentry and Joinery Department for quality teaching and learning has been approved. A total of $397,000.00 has been allocated to purchase machines and train staff for the Department. Vocational and technical training really goes with facilities and for that matter this can pave way for introducing higher programmes like the Higher National Diploma (HND) in wood technology. This is consistent with Fabunmi's recommendation that educational expenditure should be increased, particularly, on science and technology programmes.

De-Heer (2004) noted how parents in Ghana today are willing to make the necessary sacrifices to see their children through tertiary education, despite the outrageous bill for tuition, accommodation, study materials and basic needs. The total cost though beyond their regular means are strongly managed as a result of the expectation that a degree or diploma will provide their children with good jobs and financial security for the rest of their lives. He further advised that young people should seek career or vocational guidance, to enable them identify the occupation for which they are best suited. He observed that artisanship, semi-professional and entrepreneurship training would enable many young people to earn incomes within about a year of training.

Technical vocational education and training receives a very low share of the education sector recurrent budget of about 1.5%. The budget for technical

institutes has been constrained for many years, as a result a severe and under financing and decline in their capacity to deliver their curricula (Policies and strategic plans for the education sector 2002. It has been proposed that provision should be made in the technical institute budgetary to provide training courses for school drop-outs and out of school children. These grants could also be extended to vocational institutes. These are laudable proposals yet to see fruition (Polices and strategic plans for the Education sector 2002).

The Need for a National Technical / Vocational Qualification

The importance of competence-based training in national development cannot be over emphasised. Cole (2002) defines competence as 'the ability to demonstrate to another that you can perform a task, process or function to a satisfactory standard'. The implication here is that a person cannot just be capable of performing a task but also be capable of performing the task to some pre-determined appreciable standard. In this case, skills acquisition is very important because it enhances the competence of the individual.

In vocational education and training, it is important to lay emphasis on testing knowledge first before one is permitted to pursue professional training. According to Cole (2002) after a review of vocational qualification in the United Kingdom in the 1980s it was confirmed that emphasis should be placed on the testing of knowledge throughout various trades and professions. In 1986, the government therefore set up a National Council for Vocational Qualifications Committee (NCVQ) to develop a national framework of vocational

qualifications. In Ghana, vocational qualifications are not accorded the dignity they require because of low patronage and lack of progression. A national vocational qualification will increase and improve vocational education and training. The introduction of a framework of national vocational qualification would specifically promote the following key objectives:

1. The provision of a coherent structure for Vocational Training to tertiary level.
2. The development of employment – led standards of competence.
3. The provision of a system for recognition achievement, including prior achievement.
4. The improvement of access to vocational qualifications consistent with the maintenance of standards.
5. The rationalisation and simplification of the structure and provision of vocational qualifications.
    a. The provision of vocational qualifications which are capable of being independent of the mode, duration and location of the learning process.

In recent times a lot of concerns have been expressed on the need for a comprehensive policy for technical and vocational education and training. This is confirmed by a Daily Graphic editorial which states that: 'While training in the liberal arts is essential, it must be complemented with sound technical and vocational training and education to enable us to develop the skills that will make us independent. (Daily Graphic, Sept.10, P.7). Kludgeson (2005) viewed

the polytechnics along with vocational and technical institutes as critical stakeholders in job creation. He identified three sources responsible for the creation of jobs.

(1) The Individual Initiative

(2) The role of the Private Industrial Sector

(3) The Government (Public) Sector.

As part of moves to achieve the government policy of ‘golden age of business’ the youth especially are being encouraged by the Ministry of Private Sector Development to establish businesses. This constitutes a positive challenge for the Polytechnic graduates whose training puts them in advantageous positions. Vocational Training must be a plausible choice even at the basic level during the selection of schools and not as a last resort when the child is disappointed trying to get into a senior secondary school.

In the opinion of Harbison (1973) the aim of the polytechnic movement is education for self employment. This means providing young people with skills, understanding and values which will lead them, even when permanent wage earning roles cannot be found for them. As educational institutions, polytechnics can present the necessary ideas and skills that will help their students to develop a fuller understanding of their environment in which new worthwhile occupational opportunities can be recognised.

It is time to recognize the work of scientists and engineers in Ghana in order to promote research and development. It has worked for giant industrial nations like Japan, China and America. In Japan, technology prizes are

conferred on scientists and engineers for their excellent work, in areas of science and technology for industrial production. Corporations, factories and research organisations also receive production prices for their outstanding achievements in establishing new industrial areas or manufacturing processes based on good results of scientific and technological study for industrial production. (Shinji Fukui, 1987) Ghana can emulate some of these strategies by instituting technology and production awards to encourage individuals, institutions, and industry to work on competitive basis to achieve results and win awards. Dzomeku (2008, October 03) emphasized that the Ghanaian scientists and technologists require adequate reward for the efforts they make to improve upon development. The polytechnics must be supported to champion research and development in science, technology and production.

It is now evident that seventeen years after upgrading the polytechnics into tertiary institution, participation in a number of technical programmes remain low. The unpopularity of technical programmes has been attributed to lack of a national policy framework needed to make it attractive to the youth. Studies show that nothing has changed in terms of content and delivery of the education curriculum. The curriculum has out-lived its usefulness and cannot meet current challenges of national development.

The relevance of technological education for national development was emphasized. Technical and vocational education and training programmes were proposed to accelerate the development agenda. However the initiatives have not been fully implemented. The preference for ‘white collar’ job is a colonial

legacy that has influenced people from developing interest in technical and vocational education. Other challenges include the perception that technical and vocational programmes are reserved for the less talented and the under-privileged.

Despite the awareness that technical and vocational education and training complement liberal education, the education system has not been properly structured to attract the youth into skills acquisition programmes. The polytechnics therefore have been urged to evolve programmes that can absorb the youth and equip them with employable skills. Until all the wonderful strategies mentioned have been implemented, the problems facing participation in technical programmes will persist and continue to affect the total development of Ghana.

CHAPTER THREE

METHODOLOGY

The methodology for carrying out the investigation is discussed in this chapter. The purpose of this study is to investigate factors influencing low participation of students in technical programmes at the Sunyani Polytechnic. The areas treated are the research design, population, samples, sampling techniques, research instruments, pilot testing, administration of instruments, problems encountered in data collection process and the data analysis procedure.

Research Design

This study was a survey of variables affecting low participation of students in technical programmes at the Sunyani Polytechnic. In carrying out the study design, descriptive survey was used.

Agyedu Donkor & Obeng (1999) noted that quantitative research consists of those studies in which the description of observations is not ordinarily expressed in quantitative terms. No hypotheses are needed; research questions are raised and answered in a descriptive way.

The rationale for choosing the descriptive design is that it requires inductive – deductive reasoning to arrive at generalisations. It employs method of randomisation so that error may be estimated when population characteristics

are inferred from observations of samples. Other researchers can replicate the research provided variables and procedures are described as accurately and completely as possible. One weakness associated with the descriptive research design is that it is susceptible to distortions through the introduction of biases in the measuring instruments. Also the academic level of administrators of questionnaires and interviewers can affect the quality of results of a research.

Population

Population is defined by Agyedu, Donkor & Obeng (1999) as 'the complete set of individuals, objects or events having a common observation characteristic in which the researcher is interested' (p. 40) . The following target population was chosen as a result of their interest and participation in technical programmes. Students and staff of the School of Engineering and School of Applied science of the Sunyani Polytechnic, trainers and trainees of the Regional Technology Transfer Centre (RTTC), apprentices and craftsmen of the Sunyani garages and students of Twene Amanfo Senior High Secondary Technical School and Sacred Heart Junior High School. There are programmes for all the various categories of learners mentioned at the polytechnic. The target population for the study comprised 225 elements.

Sample and Sampling Technique

The study sample consisted of 45 out of 183 students selected through systematic random sampling method. A sample interval of 4 was used. All 30

tutors at the school of engineering and applied science were selected because some of them were tutors at the technical department during the technical institute period from 1990 to 1998. Samples obtained from RTTC were 60 out of 120 trainees and trainers through random sampling method. For the sake of convenience 5 garages were randomly chosen. Lists of apprentices and craftsmen were obtained from each garage. Out of 80 names 45 was selected through quota sampling. Study sample obtained from Twene Amanfo Senior High Secondary Technical School and Sacred Heart J.H.S comprised 45 out of 100 students through systematic random sampling method with sample interval of 2. Table 2 shows sample size for the various target groups Out of a total of 333 members in the target population 225 members were selected to answer the questionnaires.

Table 2

Sample size of target groups

Target Population	Sample	Sample size
Tutors of Sunyani Polytechnic	30	30
Students of Sunyani Polytechnic	183	45
Trainees/trainers of R.T.T.C./	120	60
Apprentices/craftsmen of garages	80	45
Students of Twene Amanfo and Sacred Heart	100	45
Total	333	225

Research Instruments

I used five sets of self–developed questionnaire and an interview guide to collect data from five groups of respondents constituting the sample and five management staff of the Sunyani Polytechnic. The first set of questionnaire Appendix A (Instrument A) was administered to 30 tutors of the School of Engineering of Sunyani Polytechnic. The second set of questionnaire, Appendix B, (Instrument B) was administered to 45 students of the school of Engineering of the Sunyani Polytechnic. The third set of questionnaire, Appendix C, (Instrument C) was administered to 50 trainees of RTTC and 40 apprentices of the garages. The fourth set of questionnaire, Appendix D (Instrument D) was administered to 10 trainers of RTTC and 5 craftsmen of the Sunyani garages (Magazine) and the Fifth set of questionnaire, Appendix E (Instrument E) was administered to 45 students of Sacred Heart J.S.S and Twene Amanfo Senior High School.

Instruments A, B and C consisted of seven sections while Instrument D consisted of six sections. Instrument E had only four sections. All the sections consisted of both structured and unstructured items. Section “A” of each questionnaire sought to collect information on the personal characteristics of respondents. Section “B” of all the questionnaires dealt with issues relating to the importance of technical/ vocational education and training and Section “C” dwelt on challenges facing technical/vocational programmes. Section “D” focused on factors influencing low participation in technical programmes in Sunyani Polytechnic. The Fifth section of Appendices A, B, C, and D Section

“E” dealt with how low participation of students in technical /vocational programmes could affect the development of a nation. The sixth section of Appendices A, B, C, and D Section “F” dwelt on the perception of the public on vocational/ technical programmes. The final section of Appendices A, B, C, and D Section “G” sought to solicit information on interventions to improve enrolment problems in technical/ vocational programmes.

For the sake of uniformity in scoring items in each section, the five sets of the questionnaire treated the same themes. However in Appendices D and E, themes which were not applicable were omitted. In order for respondents to get a clearer meaning of items and also be able to understand the items, construction of questionnaire items in Appendices B, C, D and E were modified to suit respondent’s level of education.

Dichotomous response items were used in sections ‘D’, of Appendix B, sections ‘B’ ‘C’, and ‘D’ of Appendix C, sections ‘B’ and ‘C’ of Appendix D and section ‘C’ of Appendix E. Responses were ‘yes’ or ‘no’ and scores were tallied and converted into percentages. Multiple choice items were used in section ‘B’ of Appendix E to assess the awareness of respondents on the importance of technical/vocational programmes for national development, percentages were used to score.

In section ‘F’ of Appendix A and Section ‘F’ of Appendix C open ended questions were used. In section ‘G’ of Appendix A, section ‘G’ of Appendix B, section ‘G’ of Appendix C, section ‘F’ of Appendix D and section ‘D’ of Appendix E. Scores allotted were in percentages. An interview guide Appendix

G was prepared to assist in collecting information from the Vice-Rector, Planning Officer and the three Deans who constituted the study sample for management. Information sought from them included causes of low participation of students in VOTEC programmes, the relevance of VOTEC in National Development, suggestions for attracting students from technical institutes and other analogous institutions for Sunyani Polytechnic and measures to boost interest of students in VOTEC programmes in the polytechnics.

Pilot Testing of Instruments

The questionnaires for students of Sunyani Polytechnic, trainees and J.H.S/ S.H.S were pilot-tested at the Building Technology Department of the Sunyani Polytechnic to establish the reliability of the research instruments (Instruments 'B' and 'C'). The Building Technology Department was used for the pilot study because it offers technical programmes and forms part of the School of Engineering. Analysis of the pilot data showed the weaknesses and strengths of some items in the draft questionnaire. The items in the questionnaire were reviewed to suit the level of respondents.

Administration of Questionnaires and Interviews

I sent out the questionnaires by hand and was able to establish direct contact with respondents at the Sunyani Polytechnic, the Regional Technology Transfer Centre (RTTC), and the garages at Sunyani, Twene-Amanfo Senior High and Sacred Heart Junior High Schools. At each institution or training

centre the respondents were briefed on the purpose of the study before the questionnaires were distributed. At the end of the third day, I collected all the questionnaires from Sacred Heart JHS and Twene Amanfo Senior High Secondary Technical School All questionnaires from Sunyani Polytechnic were collected at the end of the fourth day. I could not retrieve 2 out of 45 questionnaires administered to students of the Sunyani Polytechnic .There was no problem in collecting the questionnaire from the garages. Out of the 10 questionnaires administered to trainers at RTTC 8 were obtained and 49 out of 50 questionnaires administered to trainees were retrieved after two weeks. The return rate was high as shown in Table 3. Out of a total of 225 questionnaires administered to respondents 220 were retrieved. This represents 97.7 % return rate.I interviewed the Vice Rector, the Planning Officer and the three Deans of the three schools of the Sunyani Polytechnic by using a structured interview guide. The responses were sorted and grouped according to ideas and opinions expressed by respondents and grouped according to the main themes.

Table 3

Percentage of Questionnaire Returned

Category of Respondents	Number of Questionnaire Administered	Number of Questionnaire Returned	Percentage of Questionnaire Returned (%)
1. S-Poly tutors	30	30	100
2. S-Poly students	45	43	95.5
3. Trainers of RTTC	10	8	80
4. Trainees of RTTC	50	49	98
5. Craftsmen of the garages	5	5	100
6. Trainees of the garages	40	40	100
7. JHS/SHS students	45	45	97.7
Total	225	220	97.7

Total percentages were calculated for each item after the frequencies for each item of the institutions and training centres had been summed up.

Data Analysis Procedure

The study was a descriptive one, so I used qualitative analysis involving frequencies, percentage mean and mode in the analysis of the collected data. Scores were obtained for the various items in each section, tallied and percentages were calculated to show the extent to which respondents agree or disagree to the various questionnaire items.

A five point Likert scale in descending order from 5 to 1 was used to weigh responses in instances where percentages and frequencies were not used. Responses to items in sections “B”, “C”, “D”, and “E” of Appendix A sections “B”, “C” and “E” of Appendix B and section “F” of Appendix C followed the five Likert scale in the descending order. The responses and scores allotted are as follows:

Response	**Score**
Strongly agree	5
Agree	4
Undecided	3
Disagree	2

In Section ‘F’ of Appendix C graphic ranking scale items were used to assess public perception of vocational training. The responses and scores allotted are as follows;

Response	**Score**
To a great extent	5
To some extent	4
To a little extent	3
Not at all	2
Don’t know	1

The responses of the open-ended questions were grouped according to common ideas expressed by respondents and sorted out to fit into the various themes under the research questions. Frequencies were established for the

groups and percentages calculated to give meaning to the varied responses. Responses to dichotomous items were also sorted according to the various themes and sub-themes. Responses were reported with frequency counts and further converted into percentages.

CHAPTER FOUR

RESULTS AND DISCUSSION

The analysis of the results of this study dwells on demographic data, the importance of Technical and Vocational Education and Training for development, challenges facing TVET programmes, factors influencing low participation in TVET programmes, effects of low participation by the youth in technical programmes, perception of the public on TVET and interventions to address the situation. Results obtained through interview were also discussed.

Demographic Data

The analysis of data on age and sex of respondents, as shown in Table 4 revealed that there was high male involvement in the research. Out of a total of 220 respondents, 204 (93%) were males and, 16 (7%) were females. It was found out that almost all the female student respondents (94%) were below 20 years. However, (79%) of the male students and trainees were below 30 years. About (15%) of the male academic staff and trainers were below 50 years.

Table 4

Age and sex of Respondents

Age	Male		Female		Total	
	No.	%	No.	%	No.	%
Under 20	64	31.4	15	93.7	79	35.9
21-30	98	48	-	-	98	44.5
31-40	18	8.8	1	6.3	19	8.6
41-50	12	5.9	-	-	12	5.5
Over 50	12	5.9	-	-	12	5.5
Total	204	100	16	100	220	100

The high male involvement in the research shows that technical programmes are highly patronized by males. Females may shy away from engineering programmes for a number of reasons. They may see it as a difficult area and as an area, which involves physical activities and therefore reserved for men.

Beneficiaries of TVET Programmes

Table 5 shows the results obtained to show the opinion of respondents on which people should participate in TVET programmes. It also shows whether there are benefits to be derived from technical and vocational education and training by a nation. It provides answers to research question 1.As shown in Table 5, all the 220 respondents disagreed that TVET programmes are designed for only low achievers or school drop outs. Eighty- four percent of the total

respondents agreed that everybody requires some form of technical /vocational education and training since Ghana cannot become a developed nation without a comprehensive TVET programme from the basic level to the tertiary level. They all agreed that TVET is relevant to national development.

The responses from all the respondents clearly indicate that technical/vocational education and training are worthwhile for the industrial development and the economic and social progress of Ghana. It is critical to give TVET the necessary attention and support to promote total development of the country. When asked about the role of vocational/technical education and training in National development, the five interviewees emphasized that the VOTEC programme is relevant to development because it helps to produce middle level manpower for industry and construction. . They noted that it helps the youth to be equipped with employable skills, technical knowledge and entrepreneurial skills required to create jobs. It also offers them opportunity to secure jobs.

Table 5

The Beneficiaries of TVET programme

Statements	Strongly Agree	%	Agree	%	Disagree	%	Strongly Disagree	%
TVET is for low achievers only	-	-	-	-	-	-	220	100
TVET is for school drop-outs	-	-	-	-	-	-	220	100
Everybody requires some form of Technical/Vocational Education and Training.	10	4.5	175	79.5	35	15.9	-	-
Ghana can become a developed nation without a comprehensive TVET programme from the basic level to the tertiary level.	-	-	-	-	-	-	220	100
TVET is relevant to national development	74	33.6	146	66.4	-	-	-	-

These findings confirm the studies of Budu-Smith (2005), Sam (2006) and Twum-Barimah (1971). Budu-Smith emphasizes that TVET is a major agent for industrial development, economic and social progress of any country, while Sam debunked the notion that the vocational and technical schools were for those who could not make it to the grammer schools. Twum-Barimah therefore states that "TVET is a complementary system which is desirable and must be advocated for development". He explains that as a means of servicing our development process, the benefits of educating the practical minded will be enormous, for, it will satisfy the interest of those whose special talents do not lie in the more academic subjects, solve the unemployment problems and control the migration of the youth to the cities.

Challenges Facing TVET Programmes

This section provides answers to research question. Table six shows data on challenges that prevent the development of TVET programmes. Majority of the respondents, 67.4% agreed that there is lack of academic progression for technical/ vocational graduates. The responses obtained refer to an incomplete progression of the technical school graduate to the highest level of the educational system in Ghana. It was noted that students who pursue non- tertiary programmes in the polytechnic after graduating at the advanced level do not have basic requirements like Mathematics, English Language and Integrated Science, because they do not form part of examinable subjects in their final examination. As a result of problems associated with progression, interest of

students may be seriously affected. Basic requirements in English Language, Integrated Science and Mathematics should be made compulsory for students in technical institutes in order to enhance their progression in programmes at the higher level of the Educational system. Lack of interest in technical programmes by the youth was cited by 79.1% of respondents. This implies that students are not attracted to technical programmes, a problem that could be attributed to purported lack of prospects for technical school graduates and lack of encouragement from people. It could also be attributed to lack of attention given to technical programmes.

These might be the reasons why students show very low interest in technical programmes. However, 80.7% of the respondents disagree that there is lack of qualified technical teachers in the School of Engineering. A popular concern over the absence of modern teaching and learning equipment and facilities was shown by tutors. This is a genuine concern that could affect participation in technical programmes in the Polytechnic. Students show deeper understanding of theory if they get the opportunity to develop the needed skills by using tools and equipment and machines effectively. All the 86 respondents conceded that running of TVET programmes is expensive. However this should not scare stakeholders because the investment returns in human resource could be huge and beneficial to the nation. The need to make TVET a plausible choice but not a last resort was accepted by all the 86 respondents, since it could help to improve participation of students in technical programmes. All 86 respondents also agree that the system of education in Ghana is producing more unskilled

and severely underemployed workforce. They also agreed that it is time to reorganise technical/vocational education and training from the basic level to the tertiary level. This is critical because a well defined and structured technical programme has contributed greatly to the development of great nations in Europe, America and Asia.

Table 6

Challenges Facing TVET Programmes

Statements	Strongly agree	%	Agree	%	Undecided	%	Disagree	%	Strongly Disagree	%
1. Lack of academic progression for Technical/Vocational graduates.	35	40.7	23	26.7	-	-	28	32.6	-	-
2. Lack of interest in technical programmes by the youth.	18	20.9	50	58.2	-	-	18	20.9	-	-
3. Lack of qualified technical teachers.	6	7	-	-	2	2.3	60	69.7	18	21
4. Lack of modern teaching and learning equipment and facilities	23	26.7	60	69.8	-	-	-	-	3	3.5
5. Technical/ vocational education and training are expensive.	72	83.7	14	12.3	-	-	-	-	-	-
6.Technical/Vocational Training must be plausible choice and not a last resort	43	50	43	50	-	-	-	-	-	-
7. The system of Education in Ghana is producing more unskilled and severely underemployed workforce	58	67.4	28	32.6	-	-	-	-	-	-
8. The need to reorganize TVET from basic level to tertiary level	40	46.5	46	53.5	-	-	-	-	-	-

When asked about their views on the low level of enrolment of students in technical programmes and whether it pertains only in Sunyani Polytechnic, interviewees observed that the problem is not limited to Sunyani Polytechnic but also exists in other Polytechnics, Technical Institutes and Secondary Technical Schools. This suggests that the enrolment problem is a general one.

These findings confirm Anamuah-Mensah's (2002) report of the President's Committee on Review of Education Reforms in Ghana which reviewed that there were no provisions of a consistent academic progression for the technical school graduate, and no modern training facilities for the institutions. Annoh (1997) also confirms that technical education was unpopular due to lack of interest and Kwami, F.O. and Ing, (2001) cited deficient system of Education due to lack of attention to TVET.

Previous research has confirmed that Technical/ vocational education and training enrolment is highest in the Pacifics (32%) and lower in Saharan Africa (6%) (Education for all global monitoring report 2008). The cause is attributed to colonial history, cultural institutions and geographical proximity.

Factors Influencing Low Participation of TVET Programmes

This section constitutes answers to research question 3. It seeks to identify the various factors that influence low participation in TVET programmes. As shown in Table 7 all the respondents agreed that lack of Technical Institutes in the Brong Ahafo Region to serve as breeding grounds for Sunyani Polytechnic is a factor influencing the low patronage of technical programmes. The five interviewees also cited inadequate technical Institutes in

the region as a factor influencing low participation of TVET programmes. This revelation has seriously affected participation in technical programmes because students would be attracted to technical programmes if they already have basic knowledge in the area from Secondary Technical School or technical institutes. The absence of technical institutes in the Region has seriously affected enrolment in the technical programmes at the Sunyani Polytechnic.

The interviewees therefore proposed that more technical Institutes be established in the Brong Ahafo Region to solve the problem. Seventy-four percent (74%) of respondents also agreed that lack of boarding and lodging facilities for young engineering students is also a factor militating against the patronage of technical programmes in Sunyani Polytechnic. It is known that students in some of the secondary technical Institutes enjoy boarding and lodging under the strict supervision of their teachers. However at the Sunyani Polytechnic the hostel system and level of supervision is minimal. This might have discouraged parents and guardians from sending their children to pursue technical programmes at the Sunyani Polytechnic.

Table 7

Factors Influencing Low Participation in Technical programmes

Statements	Strongly Agree	%	Agree	%	Disagree	%	Strongly Disagree	%
Inadequate Technical Institutes in the Brong Ahafo Region to produce students to enrol in Technical programmes in Sunyani Polytechnic	17	23.3	56	76.7	-	-	-	-
No. suitable boarding and lodging facilities for young students who wish to pursue Technical programmes in Sunyani Polytechnic	24	32.9	30	41.1	-	-	12	16.4

The interviewees attributed the low patronage of technical programmes in Sunyani Polytechnic to the perception by people that technical programmes were designed for academically weak students. They further observed that many students show more interest in business and arts programmes for reasons such as general respect accorded to business students, availability of jobs and the prestige that people who do 'white collar' jobs enjoy in society.

As shown in Table 7, institutional arrangements like well organized boarding and lodging facilities to suit students and lack of Technical Institutes in the Brong Ahafo Region are factors affecting enrolment in TVET programmes. These findings conform to a departmental report issued in 2006 by a three member committee from the Furniture / Carpentry and Joinery Section (Appendix F)

Reasons for the Low Participation of People in Apprenticeship Training

This section provides additional answers to research questions 3. It gives reasons why there is low participation of people in apprenticeship training. Five dichotomous statements were designed for respondents (Section D Appendix C). hey were expected to provide "Yes" or "No" answers to show acceptance or rejection to the items. As shown in Table 8, majority of respondents (84.4%) agreed that lack of interest in vocational programmes by the youth is affecting recruitment in vocational programmes. It is also known that there is high preference for Business and Commercial programmes by students in the Sunyani

Polytechnic. This might be a contributory factor for the low participation of students in Technical programmes. Majority of respondents, 62.2% disagreed that Vocational Training is a difficult programme. However, 66.7% agreed that support for trainees is not adequate. This shows that if given the necessary support, more students might pursue TVET irrespective of the level of difficulty in the content of the programme.

Table 8

Reasons for the Low Participation of People in Apprenticeship Training

Statements	Yes	%	No	%
1. Many people do not like Vocational Training because they do not have interest in technical programmes	76	84.4	14	15.6
2. Vocational Training is difficult to study	34	31.8	56	62.2
3. No adequate support for trainees	60	66.7	30	33.3
4. Trainees cannot do further studies	65	72.2	25	27.8
5. It is not easy to get employment after training	51	56.7	39	43.3

Interviewees pointed out that trainees have to be encouraged to participate in technical programmes by providing them with financial and material support. The interviewees also proposed that industry and the community should assist the Government to support technical education by creating a VOTEC fund. On the issue of opportunities available for trainees to do further studies, 72% of the respondents agreed that there is lack of academic progression for the trainees. Academic progression for students in the TVET programmes requires attention. Trainees have to be prepared to enter into the mainstream of the education system. Majority of the respondents, 57% confirmed that it is not easy to get employment after graduation. This might be as a result of the type of employment the respondents may be referring to. A student who has been trained in a VOTEC programme should not work in an office for administrators. The emphasis on skills acquisition could only be useful if students could apply what has been imparted to them. Interviewees proposed collaboration of Industry, Community, Government and the Polytechnics in developmental projects. This, according to them could offer a lot of job opportunities for the polytechnic graduates.

These findings confirm a report by UNESCO- UNEVOC/UIS, (2006). It identified low enrolment in TVET programmes in sub- Saharan Africa (6%) and attributed the cause to more emphasis on liberal Education in African countries. This according to the report has led to the attraction of the youth to liberal education than engineering programmes. High enrolments in TVET as observed in the Pacifics indicate that TVET is not a difficult course area to venture into

and could not be a reason for the low patronage in Ghanaian institutions as revealed in Table 7. Another report from the Policies and Strategic Plans for the Education Sector (2002 p13-14) confirms that there is low budgetary support for Technical programmes.

The findings in Table 8 also reveal that there is lack of academic progression in TVET for trainees. This was confirmed by Asenso-Okyere (2004) He called for the revision of the curriculum of the University of Ghana to meet the demands of Industry, Commerce and Agriculture. As shown in Table 8, lack of job opportunities is a factor affecting enrolment in TVET programmes.

However, Shingi Fukui, (1987) indicates that research in Science and Technology can help to break new grounds and open job opportunities for people. Kludgeson, (2005) also holds a similar view on job creation. He referred to the individual entrepreneur and industry as stakeholders in job creation rather than looking up only to Government for jobs. Harbison (1973) also supports the issue on job creation by referring to the Polytechnics as a movement to educate people for self employment. Unemployment problems could be solved through the creation of more jobs in the field of science and technology. This could challenge the Technical Institutes and the Polytechnics to train more students in TVET programmes in order to qualify as technicians, artisans or entrepreneurs.

People's Perception of VOTEC Programmes

This section provides answers to research question 4. It dwells on how people perceive VOTEC programmes and their level of involvement in technical education.

As shown in Table 9, majority of respondents, 117 representing 66.9% do not regard TVET programmes as popular. The unpopularity of TVET programmes is a cause of worry for many people in Ghana. There are several calls of late by opinion leaders for a shift from the emphasis on liberal Education to TVET programmes. According to Addo-Yobo, (March 29, 2010) the mandate given to the polytechnics in the 1992 Act should spur them on to uplift the Technical Vocational Education and Training (TVET) to a much higher level in order to enhance innovation and knowledge generation. Similarly, a greater number of respondents 53.7% do not see TVET as a prestigious area. An unfortunate perception that has affected participation of students in TVET programmes. The false impression created by the people could be the main reason why students shy away from TVET programmes.

Majority of respondents 74.3% consider TVET as a preserve for low achievers. This is another serious notion that might have contributed to low participation in TVET programmes. The quality and content of TVET programmes could not be described as an area for school dropouts and low achievers. Rather it is a versatile area that could be packaged to satisfy all levels of abilities. It allows students to be able to pursue Hands- On Skills Development (H.O.S.D) programmes. It has been emphasized by Dzomeku

(2008, October) that the study of science and technology programmes are a much more difficult areas than the Liberal arts. However, the issue of low participation of students in technical programmes could not be totally attributed to the complexities associated with the study of Science/ Technology. Science and Technology programmes could be broken into modules that could be understood in simple terms and also made interesting.

Table 9

People's Perception about Technical/Vocational Programmes

Statements	Very High	%	High	%	Low	%	Very Low	%
How would you assess the popularity of TVET programmes?	13	7.4	45	25.7	102	58.3	15	8.6
How would you rate the quality of TVET programmes?	-	-	81	46.3	57	29.1	43	24.6
What is your level of participation in TVET?	32	18.3	98	56	27	15.4	18	10.3

Peoples' View about Technical/ Vocational Education

In this section, views of 45 Junior High School/ Senior High School students were solicited to find out their perception about technical/ vocational Education. Three statements were made and the respondents were asked to confirm or disapprove by ticking YES or NO. (Refer to questionnaire in Appendix E section C). Responses for each statement in this section were tallied and percentages calculated for the total frequencies.

Table 10

Peoples' view on Technical /Vocational Education

Statements	Yes	%	No	%
Would you like to pursue Technical/ vocational Education after your course?	22	48.9	23	51.1
Do many people like Technical/Vocational Education?	14	31.1	31	68.9
Would your parents allow you to pursue Technical/ vocational programme after your course?	18	40	27	60

As shown in table 10, about half of the respondents 51.1% showed their desire to pursue Technical/ vocational programmes after basic Education. This is an indication that students at the Junior and Senior High Schools know about the relevance of technical education to development and if given the chance would

participate in it. Majority of respondents 68.9% believe that many people do not like Technical/ vocational Education. Reasons for this assertion could be attributed to lack of knowledge about the importance of vocational/technical education and lack of interest in the programme. It is widely known that technical and vocational education and training have not been given the needed attention and support and has therefore discouraged people from pursuing it.

Views obtained from interviewees showed that there is negative perception by the people towards technical and vocational education.

The people rather have general preference to grammer related programmes than VOTEC programmes. More than half (68.9%) of the respondents confirmed that their parents would not allow them to pursue technical /vocational programme after basic education. This shows that there is general disregard for VOTEC programmes. This finding is consistent with Freiku's studies (1998) which revealed that parents attitude to their wards pursuing courses in technical education is not encouraging. As high as 66.9% of respondents rated TVET as an unpopular programme area for the youth. Many people do not show interest in technical programmes. These findings further confirmed the studies of Akordor (2008) that technical profession do not attract the right calibre of scholars due to the unfortunate perception that it is for low achievers.

How Low Participation in Technical Programmes affects National Development

This section provides answers to research question 5. It seeks to find out how low participation in technical programmes affects development. A total of 73 respondents provide responses to 4 statements and 89 trainees and apprentices provided answers to open ended questions.

As shown in table 11, all respondents agreed that low participation in TVET can have negative effect on the development of the nation. Many unskilled people will abound. There will be unemployable school graduates because many people will compete for few jobs. There will also be criminals who will rob in order to survive. The development of the country will be seriously affected as progress will be painfully slow. A list of problem that may result from low participation of TVET as provided by trainees and apprentices include unemployment, unskilled labour, criminal activities, poverty and under-utilized facilities and resources in institutions and training centres.

Table 11

How low participation in Technical Programme affects National Development

Statements	Agree	%
If many people shun TVET more unskilled people will be produced.	73	100
There will be a lot of unemployable graduates in the system	73	100
Criminals will abound in the country.	73	100
The country's development will continue to be very slow	73	100

Findings on how low participation in technical programmes affect development as shown in Table 11, confirm Ing & Kwami's (2001) study. They lamented on the effect of that the wasted youth could have on the nation. They stated that 'severely under-employed young boys and girls, young men and women will abound' and described the situation as dangerous to development. The findings complement challenges to human capital formation and need prompt attention.

Interventions to improve participation in TVET programmes

Issus on research question 6 have been addressed in section. As shown in Table 12, all the 43 respondents proposed practical training at the JHS level as a solution to boost interest and improve enrolment in technical programmes. It will afford students the opportunity to develop interest in the course at a very early stage. Majority of respondents 83.7% indicated that the curriculum of technical education must be repackaged to meet current demands of society.

Table 12

Interventions to improve participation in TVET programmes

Statements	Agree	%	Disagree	%
Introduction of practical training at the JHS level	43	100	-	-
Repackage technical education curriculum to meet current demands	36	83.7	7	16.3
Technical drawing should form an integral part of all programmes at the JHS/SHS levels	29	67.4	14	35.6
All basic and second cycle Technical /Secondary / Technical Institutions must be equipped with requisite Technical resources.	41	95.3	2	4.7
Students who pursue TVET must be supported and encouraged to continue programmes through sponsorship	43	100	-	-
A Technology fund must be made available to support students who pursue TVET programmes	43	100	-	-
A uniform Technical qualification must be introduced up to the highest level in the Educational system	39	90.7	4	9.3
A national competitive Technology prize must be instituted to identify brilliant technologists.	40	93	3	7

Interviewees proposed that industry and community should assist Government to provide support materials and sponsorship packages to boost and expand technical education and training programmes. This intervention could encourage students to pursue TVET programmes, make the youth employable, alleviate the growing unemployment crisis and reduce the increasing crime rate in the country.

It was noted by 29 (67.4%) of the respondents that Technical drawing should be part of the core subjects at the JHS/SHS level it will provide them with the basic knowledge in TVET and enhance their entry into higher programmes. They unanimously agreed that the Technical Institutes and Secondary Technical Schools must be adequately resourced and their students offered support in order to attract and retain them to pursue the course through the introduction of a support fund. Interviewees also suggested that trainees must be encouraged to participate in VOTEC programmes by providing financial and material support to make such programmes meaningful and also attract more participants. Almost all the respondents 90.7% agreed to the introduction of a uniform technical qualification proficiency system from JHS to the highest level in the Education system.

Technical education in Ghana has not been adapted to permit technical institute graduates to proceed to further studies appropriately. Academic progression for Technical School graduates has not been smooth. Many of them do not have the basic requirements in Mathematics, English Language and Integrated Science because such core subjects do not form part of the

examinable subjects in their final examination. Interviewees have also noted the problem of basic requirements (English Language, Mathematics and Integrated Science) and have recommended that the core subjects be made compulsory for students who pursue non-tertiary programmes at the Technical Institutes and Polytechnics. This will enhance their progression in programmes at the higher level of the Educational system. Lack of academic progression for students in technical/ vocational programmes might have contributed to the low participation of students in VOTEC programmes.

The Ministry of Education's Policies and Strategic Plans for the Education Sector has recommended that the certification structure of the education system be reviewed to permit technical institute graduates to proceed to further studies. It further observed that such a move will place Technical Institutes in the progression route to Polytechnic and Universities. About 93% of the respondents proposed the introduction of a national competitive prize to reward brilliant technologists. It is time to make the Technical Institutes and the Polytechnics more attractive by providing equipment for training, teaching employable skills and entrepreneurship so that the Polytechnic graduate could demonstrate innovative skills that will merit National Science and Technology awards.

Findings on practical training for JHS students and review in the content of technical education curriculum confirm Bell, & Aris (2005) study which proposed that learning systems and those who manage them must prepare students to work with new technologies competently and confidently. They

explained that changes to skills requirements and work patterns must be embraced to make learning a natural lifelong process. The findings also confirm Harbison's study (1973) which indicates that the promotion of technology and vocational education for national development dwells on improvement of skill and knowledge for young people. This, according to him, will help the students to develop a fuller understanding of their environment and recognize worthwhile occupational opportunities. Findings on provision of resources for Senior High Secondary Technical Schools and Technical Institutes confirm proposals of a policy document on the Strategic Plans for the Education Sectors in Ghana, which proposed that more resources have to be allocated to Technical Institutes and the Senior High Secondary Technical Schools.

The findings as shown in Table 12 recommend a uniform technical qualification proficiency system from JHS to the tertiary level and confirm a study by Cole (2002) on the development of a coherent vocational qualification in the United Kingdom which dwells on the testing through various trades and professions. Findings on the need for the introduction of a national competitive prize reward for brilliant technologists confirm work by Shinji, (1987) on Research and Development Awards for Technologists in Japan.

Measures to Improve Enrolment in Technical Programmes in Sunyani Polytechnic

This section provides answers to research question 6. With regard to the peculiar institutional enrolment problems at the School of Engineering in

Sunyani Polytechnic measures proposed by respondents for improving the situation are stated in the Table 13. It also forms part of answers to research question 6. Almost all the respondents agreed to the fact that there is the need to improve upon enrolment in technical programmes in Sunyani Polytechnic by embarking on recruitment programmes through the media and touring of the Technical Institutes and the Secondary Technical schools. Students in Secondary Technical Schools in the region may not be aware that their graduates could pursue further studies at the non- tertiary level in the Sunyani Polytechnic.

A special collaborative programme between the Technical Institutes, Secondary Technical Schools and the Polytechnics could be established to ensure constant supply of students in Technical programme at the Polytechnic. Respondents unanimously agreed that brilliant students should enjoy scholarships and all others must enjoy some form of support. There is emphasis on support for students who pursue Engineering programmes. Funding Technical programmes is expensive and could scare parents and guardians from sending their children or wards to pursue such programmes. The introduction of scholarships and support could spur them on to allow them to participate in Technical programmes. It will make such programmes attractive to students. All the respondents recommended industrial attachment and the creation of jobs for students as measures to improve enrolment in Technical programmes. Industrial attachment and creation of jobs for Technical school graduates should feature prominently in the Nation's developmental agenda. Students will benefit by developing more hands on skills in industry and will be engaged in job creation.

This could motivate other students to chart the same course to make a living. The benefits to be derived could be huge since more jobs would mean a demand for more Technical School graduates.

Table 13

Measures to improve enrolment in Technical programmes in Sunyani Polytechnic

Statements	Agree	%	Not sure	%
Embarking on recruitment programmes through the media and touring the Technical Institutes and Secondary Technical schools.	43	100	-	-
Organising special boarding and lodging to attract students who pursue technical programmes at the Sunyani Polytechnic	35	81.4	5	11.6
Brilliant students in technical programmes must be given scholarships	43	100	-	-
Students must benefit from the proceeds after production of jobs and sale of projects.	43	100	-	-
Graduates must be absorbed into industry to work for experience and remuneration.	43	100	-	-
Graduates must be encouraged to establish jobs in groups to earn a living.	32	74.4	11	25.6
They must be given assistance to establish their own jobs.	43	100	-	-

Measures to be taken to encourage more People to Pursue Vocational Programmes

This section also forms part of answers to research question 6. As shown in Table 14 vocational training needs to be mainstreamed into the Educational System and reorganized to be more attractive. Majority of respondents proposed that Government and NGOs should jointly establish training centres for both theoretical and practical training and certification. Training equipment and tools are essential in technical programmes and could enhance the value of such programmes. Students who participate in such programmes could become professionals and also impart acquired skills to others. Certification in technical programmes is important because it makes movement of graduates in search of jobs possible.

It also makes them gain recognition and self confidence. Certification affords graduates to secure jobs in industry. Internship programmes should also be introduced in industry and garages to complement that of the training centres. Trainees should be involved in recruitment drive. Trainees also proposed integration of trainees into industry, establish their own jobs in order to be able to work and earn a living. When all these are well organised, the demand for technical school graduates will increase and participation of students in technical programmes will improve.

Table 14

Measures to be taken to encourage more people to pursue Vocational programmes

Statements	Agree	%	Disagree	%
NGOs and Government to establish well resourced Vocational Training centres for trainees to undertake theoretical and practical training for certification.	81	91	8	9
Internship programmes to be carried out at industry like garages, production fabrication companies and institutions	89	100	-	-
Trainees to educate their peers to enrol in vocational programmes.	77	86.5	12	13.5
Government, NGOs and parents to share cost of training.	63	70.8	26	29.2
Trainees to be supported to create jobs or absorbed into government established services.	89	100	-	-

Measures to Improve Enrolment of SHS/JHS Students in Technical/Vocational programmes

This section shows answers provided by SHS/JHS students on research question 6. As shown in Table 15, majority of respondents (93.3%) proposed public education on the value of TVET programmes. Technical education has not received much recognition. It is known that it has been relegated to the background instead of the needed attention. It is time therefore for all

stakeholders to promote Technical/Vocational Education and Training. The public must be encouraged to embrace and lend their support to promote technical programmes. About 78% proposed that students should be allowed to select courses of their choice with particular reference to their capabilities. Parental influence on selection of programmes for their wards and children has led to low participation of students in VOTEC programmes. Many parents do not show interest in VOTEC programmes as a result of low prestige and unattractive remuneration for practitioners of technical programmes and the quest for 'white – collar' jobs. This shows that little is known about the benefits to be derived from VOTEC programmes. This trend could change if students would be allowed to venture into Science and Technical programmes.

On the issue of how to put appropriate measures in place to improve enrolment in technical programmes, the interviewees proposed that a comprehensive public Education at the National level be carried out to reverse the negative notion that the public has about technical education. This will encourage both parents and students to develop interest in Technical programmes, and also improve upon the situation. Majority of respondents, 89% suggested that technology fairs should be organised to boost public interest and promote awareness in TVET programmes. Respondents agreed that students should be assisted to make informed choices on their career. Majority of respondents, about 80% disagreed that students should be forced to select subjects. More than 60% of the respondents proposed that students who show interest in TVET programmes must be given both material and financial support.

All respondents agreed to incentive packages for students. Respondents also accepted that students must be helped to participate in productive jobs and enjoy part of their profit while in training. Interviewees proposed involvement of students in income generating projects in order to use part of the proceeds to support them.

Table 15

Measures to improve enrolment of SHS/JHS students in Technical/Vocational programmes

	Accepted	%	Rejected	%
Educate the public on value of Technical/ vocational Education.	42	93.3	3	6.7
Allow students to choose courses that they are capable of doing.	35	77.8	10	22.2
Organising technology fairs.	40	88.9	5	11.1
Assisting students to select subjects.	24	53.3	21	46.7
Force students to choose subject	9	20	36	80
Students who show interest in TVET should be treated differently by giving them materials to work.	29	64.4	16	35.6
Providing incentives for them.	45	100	-	-
Help them to engage in productive jobs.	27	60	18	40
Students should enjoy a fraction of the profit	45	100	-	-

These findings revealed under interventions to improve participation in TVET programmes confirm proposals of a Government policy document on Science and technical education (2000) which sought to expand technical education by increasing the number of technical institutes, offer more pupils higher quality Technical education and provide employable skills Training for disabled and disadvantaged groups. Andam .(2005) also shared the idea to develop the Technical Institutes and the Polytechnics in order to be able to absorb all severely unemployed school leavers to train as artisans and managers for industries. This is consistent to a departmental committee report (refer to appendix F) of the School of Engineering (FC/C & J) section of the Building Technology Department of Sunyani Polytechnic which suggested ways of improving non-tertiary students participation in technical programmes by making institutional arrangements to offer reserved boarding and lodging facilities to attract more engineering students. Further revelations on the need to create jobs for the youth confirmed Harbison's (1973) study on the aim of the Polytechnic movement which recommends education for self- employment by providing young people with skills, understanding and values to prepare them for the world of work. Revelation on the need for both financial and material support for trainees was in line with Harbison & De-Heer (2004) who recommended higher investment in Technical education.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Overview of the study

The objective of this study was to investigate the factors responsible for the low participation of students in technical programmes at the Sunyani Polytechnic. The study also aimed at collecting information that would assist in reviewing strategies to help address the problem of low participation of students in technical programmes at the Sunyani Polytechnic.

To achieve the above objectives, a simple descriptive survey was carried out using sample and census survey research techniques on a population comprising academic staff and students of the Sunyani Polytechnic, trainers and trainees of R.T.T.C, garages in Sunyani, a Junior High School and a Senior High School in the Sunyani Municipality.

The instruments used for the study were questionnaire and interview. The data collected were edited for uniformity, and frequency and percentage values were calculated. Weights were assigned to ranks in cases where respondents were required to rank factors or variables. Analysis of each item was done and the scores for each factor or variable were summarized to determine their overall rating.

Summary of Key Findings

The following are the main findings of the study;

1. The perception that technical programmes are preserved for school dropouts and low achievers is wrong and could not be a factor influencing low participation of students in some non-tertiary technical programmes in Sunyani Polytechnic. It became clear that technical education should be embraced by all stakeholders.
2. Tutors and students attributed the low participation in TVET programmes in Sunyani Polytechnic to:
    i. Lack of academic progression of students who do not have basic entry requirements in core subjects like english language, mathematics and integrated science. The core subjects do not form part of the final examinations organized by the technical examinations unit for non-tertiary programmes in the polytechnic and technical institutes.
    ii. Low interest in TVET programmes as a result of misconceptions about TVET programmes and poor public image of students who pursue non-tertiary technical programmes. They believe it is not lucrative and has fewer prospects.
    iii. The absence of technical institutes/secondary technical schools in the Brong Ahafo Region to produce students to pursue TVET programmes in the Sunyani Polytechnic.

iv. Obsolete and malfunctioning machines and lack of learning equipment in the affected departments in Sunyani Polytechnic.

v. Poor parental support and lack of financial assistance to students in TVET programmes as a result of the expensive nature of the programme.

vi. Public attitude and negative perception of TVET by regarding TVET programmes as a preserve for low achievers and school drop outs.

3. The deficiencies in the education system according to respondents has resulted in the neglect of TVET and led to:

   i. The production of more grammer school graduates than science and technical graduates.

   ii. Production of unskilled and underemployed youth.

   iii. Wasted human resources who are only interested in criminal activities.

4. Tutors, students and apprentices believe the following measures among others will improve participation of students in technical programmes at the Sunyani Polytechnic:

i. Introduction of practical training in pre- technical skills at the J.H.S level to make it more meaningful and develop interest in the technical programmes at an early stage.

ii. Encourage students to pursue TVET programmes at higher level by reviewing syllabus at lower level and also make core subjects; English language, Mathematics and Science examinable.

iii. Restructure the education system to emphasize TVET and make it prioritized area of Government Education policy.

iv. Provision of resources and support for students in technical institutes, secondary technical schools and the polytechnics.

v. Introduction of a uniform programme in technical training toward, the award of a more recognized qualification.

vi. Institution of an award scheme for brilliant technologists.

vii. A recruitment drive in secondary technical schools and technical institutes to be pursued.

viii. Integration of apprenticeship programmes into the mainstream of the education system.

ix. Stakeholders fund should be introduced to support technical training.

x. Introduction of internship programmes in industry and garages for trainees.

xi. Introduction of technology fairs to boost interest in TVET.

xii. Introduction of community sponsorship scheme.

5 The Vice Rector, Deans and Tutors of Sunyani Polytechnic recognise the importance of VOTEC programmes to national development and observed that it has not been given the needed attention it deserves. They mentioned the following benefits of TVET if organised properly:-

a) Technical Vocational Education and Training programmes produce more refined middle level manpower for industry and construction.

b) The youth is equipped with employable skills and make them useful citizens of society.

c) The youth is also endowed with technical knowledge and entrepreneurial skills to create jobs.

6 Tutors of the Sunyani Polytechnic showed concern over the inefficient old machines as a factor that could discourage students to enrol into Carpentry and Joinery/Furniture programmes.

7 There is a general acceptance by respondents that low participation of students in technical programmes has been noted as a problem in almost all polytechnics, secondary technical schools and technical institutes in Ghana.

8 Lack of boarding and lodging facilities have been mentioned as issues militating against participation in non-tertiary technical programmes like advanced furniture, carpentry and joinery, and building construction.

9 Majority of students in Sunyani Polytechnic showed high preference to business and commercial programmes for the following reasons:

a) The notion that it is prestigious to pursue liberal education.

b) Business/ Commercial disciplines are first choice programmes for students.

c) Emphasis of Education system in commercial and business programmes and neglect of TVET.

d) Aspiration of students to become lawyers, accountants and business oriented personalities spur students on to pursue business programmes.

10 Apprentices mentioned lack of support while on training and lack of opportunity to progress academically.

11 Trainers and trainees advocated for the establishment of resourced training centres for apprentices to prepare them to acquire the needed requirements to qualify them to enrol into advanced technical programmes in the polytechnic.

12 A considerable percentage (51%) of J.H.S students showed their desire to make technical/vocational programmes a preferred choice if given the opportunity to choose between technical and commercial programmes. They however pointed out that their parents would prefer that they do business or commercial programmes after basic education.

13 There is a general concern among tutors, students, trainers and trainees (68.9%) that the negative perception by the public about TVET makes it unpopular to students.

Conclusions

The following conclusions can be drawn from the findings stated above though there were slight differences in the responses and other factors that might have influenced the findings.

It is observed from the study that many people recognize the importance of technical/vocational educational and training to the development of the country. The implication is that:

i. TVET offer young men and women the needed technical and professional skills for socio- economic development of the country.

ii. The training offers people self- employment.

iii. It is essentially meant for the youth who complete the J.S.S and S.S.S and want to acquire technical skills for employment in industry and the world of work.

An additional observation made from the study's findings is the low participation of females in Technical programmes. Females who enter the Polytechnic pursue catering and home science courses or read business courses while those who drop-out at the J.H.S learn trades such as sewing and hairdressing at private apprenticeship centres. Males who drop- out also undergo apprenticeship training in fitting and specialize in automobile, electrical vulcanizing, auto spraying and welding and fabrication.

Students from the J.H.S and S.H.S show little or no interest in technical/vocational programmes but are later compelled to pursue it as a last resort when all hopes in entering the university fail.

From the study, it is observed that lack of basic entry requirements in core subjects like mathematics, English language and Integrated science has remained a militating factor in low participation in technical programmes in Sunyani Polytechnic, other polytechnics and technical institutes. This factor has discouraged students from pursuing technical programmes in the polytechnics because of the difficulty in academic progression. Provisions have not been made adequately enough for a consistent academic progression for the technical School graduate.

This problem need prompt attention. The essential core subjects (English Language, Mathematics and Integrated Science) should form part of examinable

subjects of the Technical Examination Unit's examination syllabus for non tertiary programmes in the polytechnics and technical institutes. The measure will enhance student's participation in technical programmes by offering them equal opportunities to progress academically.

Another observation from the findings is the general disregard in technical programmes by students and lack of interest by the public in technical education as a result of negative public perception. People believe that there are no better prospects for technical school graduates. The observation suggests that students have not been encouraged to pursue technical programmes due to lack of attention to technical education by Government and policy makers.

It is also observed from the study's findings that it is expensive to pursue technical/vocational education as a result of cost of training materials, tools and equipment. While students who pursue business programmes do not require additional training cost and must have been a major factor for the high patronage, students in technical programmes pay for cost of training materials. The observation suggests that cost of training materials and other maintenance expenses should be supported by a special technical/vocational training fund.

One of the important findings of the study is the absence of a government technical institute in the Brong Ahafo Region to prepare students for the Sunyani Polytechnic. The only technical institute, Sunyani Technical, was upgraded into Sunyani Polytechnic. The implication is that the Polytechnic has to rely on other technical institutes from other regions and private technical Institutes for the supply of students in technical programmes.

A further observation from the study's findings is the undefined structure of TVET in the education system in Ghana. TVET has not been structured properly to fit into the current education system hence the low patronage in TVET programmes. The need to restructure the education system is now. It should lay emphasis on technical education since the total development of the country is not only hinged on liberal education but also science and technical education.

Recommendations

The following recommendations are made on the basis of the study's findings and conclusions drawn out of the findings. It is anticipated that these recommendations, if adopted, might help attract many students to participate in technical programmes at the Sunyani Polytechnic. There is a general recognition by all the categories of respondents that the total development of a nation is linked to a properly structured technical/vocational education and training programme that turns out competent and skilful middle level manpower to fit into the construction industry. This finding appears to suggest that TVET is relevant to national development and must be made attractive to students.

As a result of the above observation, it is recommended that more attention be given to the technical programmes offered at the FC/ C & J section of the Building Technology department at Sunyani Polytechnic. This objective could be achieved through public education on the usefulness of technical education and its appropriate functions in the development of the nation by the School of Engineering and Applied Science. There is the need for the FC/ C & J

section to organize education fairs to showcase artefacts produced at the section in order to market the department to the public. Through this, many people will see the importance of technical education and become attracted to the technical programmes offered at the Department.

Comparatively, male participation in Technical programmes at the Sunyani Polytechnic is much higher than females. Out of 30 tutors, only one of then was a female at the Furniture/Carpentry and Joinery section of the Building Technology Department. This finding suggests that technical/vocational programmes are patronized by males, more than females due to the belief that the programmes are designed to suit males. Females also shy away from technical programmes because it involves a lot of physical activity. They also find it to be difficult and strenuous.

In view of the above reasons it is recommended that female students be encouraged to venture into technical programmes by embarking on an educational drive to promote female participation in technical programmes. The Building Department of Sunyani Polytechnic can organize workshops and seminars for students to promote gender balance in technical programmes.

An introduction of a specialized programme could be designed for apprentices by the polytechnics in order to integrate them into the formal Education system. Their curriculum should be designed to meet the needs of society so that they will become employable after leaving school. The introduction of a repackaged and practically oriented curriculum for trainees to

pursue higher programmes in technical education could help to improve upon the low participation of students in technical programmes in the polytechnic.

It has been established by the current study that S.H.S and J.H.S students show little or no interest in technical /vocational programmes due to lack of attention by Government, Industry and other Stakeholders.

It is therefore recommended that technical and vocational training and education be properly structured to fit into the educational system so that many more students will be exposed to its benefits and therefore be able to make informed choices.

From the findings it is observed that students do not see the need to pursue a programme which does not have smooth progression. Progression in technical/vocational programmes is problematic because non-tertiary programmes at the polytechnics and technical institutes do not have core subjects (English Language, Mathematics and Integrated Science) as examinable subjects on the curriculum. The absence of these requirements makes it virtually impossible for students to progress and pursue higher programmes.

It is therefore recommended that both the teaching and examination syllabi be repackaged to include the core subjects (English Language, Mathematics and Integrated Science) so that the difficulty student's face in academic progression will be solved.

The study also establishes that there is no Government technical institute in the Brong Ahafo Region to prepare students to do higher programmes at the polytechnic. It is recommended that a technical institute be established by the

Government in the region to prepare students to pursue higher programmes in order to solve the problem of low participation of students in technical programmes in Sunyani Polytechnic.

Recommendations for Further Research

The following are recommendations for future research:

It is noted that if the study could be conducted in the other nine polytechnics in Ghana, it would help to ascertain the general nature of the findings. It has been observed that the polytechnics are laying more emphasis on business and commercial programmes than engineering and applied science programmes. It is therefore recommended that a study be conducted to verify reasons accounting for this situation.

REFERENCES

Addo- Yobo, A. (2010, March 29). *The mandate given to the Polytechnics in the 1992 Act.* Daily Graphic, p.11.

Adjei, B., N. (1989). *The role of technical education in the junior secondary school programme in Ghana,* unpublished thesis.

Agyedu, G.O., Donkor, F. & Obeng, S. (1999). *Teach yourself research methods*. University College of Education of Winneba. Kumasi Campus. Unpublished.

Aidoo, J.B. (2004, September 18). Strengthen technical, vocational training to meet the needs of industry. *The People's Daily Graphic, p.23*.

Anamuah- Mensah, J., (2002). *Meeting the challenges of education in the twenty first century.* Accra: Adwinsa Publications.

Andam, K. (2005). *Science and technology education in the polytechnics for national development*. Proceedings of the First Sunyani Polytechnic Lecture Series, 1, 30 – 35.

Annoh, K, (1997). *Education*. University College of Education Winneba, Kumasi campus. Unpublished.

Asenso-Okyere, K. (2004 November, 3). Tertiary education and the demands of industry *Daily Graphic*, p.11.

Akordor, K. (2008, June 24). How far have we gone with technical education *Daily Graphic,* p.7.

Bell, M. & Aris, P. (2005). *Technology- based innovations.* India: Sarasgraphics Press.

Bokor, S. K. (2005). *The role of technical education in Africa's economic development: Are the Polytechnics Still Relevant*. Proceedings of the Commonwealth Association of Polytechnics in Africa (CAPA) Seminar, 43 – 49.

Bonney, E. (2010, March 29). Polytechnics must harmonize statutes. *Daily Graphic,* p.11.

Budu- Smith, J. (2005). *The need for Polytechnics to assert and create a niche for themselves among tertiary institutions in National Human Resource Development efforts.* Paper presented at Sunyani Polytechnic Council meeting. p.1.

Bukari, A. (2004, Dec. 24). Challenges of our educational sector*: Daily Graphic,* p.19.

Chiet, E. (1975). *The useful arts and the liberal traditions*. New York: McGraw Hill.

Cole, G.A. (2002). *Personnel and human resource management* (5th ed.) New York: Book Power/ELST.

Dzomeku, K. D. (2008, Oct. 7). Promoting science and technology*: Daily Graphic, p.*7.

De-Heer, R. (2004, Sept. 18). Getting value for tertiary education: *Daily Graphic, p.*14.

Effah, P. (2005). Polytechnics and national development *a decade of polytechnic education in Ghana: An Assessment of Achievements and Failures*: Proceedings of Sunyani Polytechnic Lecture Series 1, pp. 17- 29.

Esser, G. (2001, Oct. 23). Plans to train teachers for technical schools. *Daily Graphic, p.*16.

Essuman, S. & Atta- Sam, A. (2006, May/June). Vocational Training goes with facilities. *Methodist Times*, p.9.

Fabunmi, M. (1999). Strategic management of science, technology and mathematics education (STME). *Journal of Educational Management,* 2, 140-147.

Finniston, M (1985). Engineering the future. *International Journal of Applied Engineering Education,* 9, 23-24.

Freiku, K.C. (1998). *Appraisal of the technology education programme in the teacher training colleges:* Unpublished Master dissertation, University of Education Winneba.

Government of Ghana, (2004). *White paper on the report of the education reforms in Ghana.* Accra: Ministry of Education.

Government of Ghana, (2000). *Polices and strategic plans for the education sector committee report.* Accra: Ministry of Education.

GNA (2004, Sept. 18). Strengthen technical, vocational training to meet the needs of Industry. Daily Graphic, p.23.

GNA (2004, Sept. 10). Vocational technical education*: Daily Graphic, p.13.*

Government of Ghana (2007). *Polytechnic Act 2007, Act 745*. Accra: Government of Ghana.

Harbison, F.H. (1973). *Human resources as the wealth of nations*. Princeton NJ: Princeton

Hansen, N.R. (1957). Science as a liberal education. *Quarterly Journal,* 11.

Hawkins, D. (1973). *Liberal education. A modest polemic in Keysoc.* Content and contexts essays on college education. New York*:* Mc-Graw Hill Bk. Company.

Ing, F. & Kwami, F.O. (2001, June). Challenges to human capital formation for industrialisation in the competitive environment. *Tertiary Education Series (TES)*, 1, 11-15.

Kludgeson, P.K. (2005). *Job creation and placement for polytechnic students:* The Challenges and Opportunities, Proceedings of the First Sunyani Polytechnic Lecture Series, 1, 36 – 39.

Nsiah-Gyabaah, K. (2002). Five year rolling plan for staff development (2002/2007) academic year. Staff development policy for Sunyani polytechnic, 4-5

Nsiah-Gyabaah, K. (2005). T*he role and relevance of research in polytechnic education in Ghana.* Proceedings of Sunyani Polytechnic Lecture Series Volume 1, 84 – 103.

Nsiah Gyabaah, K. & Arthur. (2005). *Achievements and failures.* Proceedings of Sunyani Polytechnic Lecture Series, 1, 17 – 29.

Odoi, C. (2006, May/June). Vocational training should be plausible choice not last resort, *Methodist Times*, p.9.

Ofori- Bruku, K. (2005). *The role of technical vocational education in Africa's economic development: Are the polytechnics still relevant? Proceedings of CAPA seminar, pp* 32- 42.

Ministry of Education (2001). *Policies and strategic plans for the education sector* (2002). 13- 57

Principal's Report, (2005). *First congregation of Sunyani polytechnic (Brochure).* Committee report Sunyani polytechnic. (2006, Jan.13). *Problems affecting enrolment of students at the FC/ C& J* Department *of Sunyani Polytechnic.*

Sam, A.A. (2006, May/June). Vocational training goes with facilities*: Methodist Times*, p.9.

Shinji-Fukui, M. (1987). *Research and development in Japan awarded:* Okochi Tokyo. Memorial Foundation.

Sprow, H.L. (1988). Handbook of research methods: *A guide to practitioners and students in the social science*. New Jersey: Scarecrow Press.

Siddiqui, M. H. (2004). *Challenges, of educational technology*. Delghi: APH Publishing Corporation.

Tenhunen, H. (2004). *Changes in Society present new challenges for technical education*. Retrieved June 7, 2004 from http://www.tucs.fi/news/articles/030618 -Tenhunen.

Twum- Barima, K. (1976). *Education for development.* Accra*:* Waterville Publishing.

UNESCO (2008). Technical and vocational education: An alternative stream within secondary education. Paris*: UNESCO*, 58- 59.

APPENDICES

APPENDIX A

FACTORS AFFECTING STUDENTS PARTICIPATION IN TECHNICAL PROGRAMMES AT SUNYANI POLYTECHNIC

Questionnaire administered to Tutors at Sunyani Polytechnic. The purpose of this questionnaire is to obtain information about factors influencing low participation of students in Technical Programmes at the Sunyani Polytechnic.

All responses that relate to or describe identifiable characteristics of individuals may be used only for academic purposes and may not be disclosed or used for any other purpose. The information you provide will be combined with the information provided by others in a project report. Your responses would be kept confidential.

INSTRUMENT 'A'

The areas covered are;

a. Demographic data
b. Importance of Technical and Vocational Education and Training.
c. Challenges facing Technical and Vocational Education and Training in Ghana.
d. Factors influencing low participation in Technical/ Vocational Education and Training Programmes.
e. Effect of low participation of the youth in Technical Programmes
f. Public perception of Technical/ Vocational Programmes

g. Interventions to improve participation in Technical and Vocational Programmes.

Section 'A'

DEMOGRAPHIC DATA

1. Age…….. 2. Sex…….

3. Department……. 4. Programme…….

Section 'B'

Benefits of TVET Programmes

To what extent do you agree to the following statements? Please Tick √ one box in each row that best describes your response.

Statements	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
1.Technical/Vocational Education and Training is for low achievers only					
2.Technical/Vocational Education is for school drop outs					
3.Everybody requires some form of Technical/Vocational	☐	☐	☐	☐	☐

Education

4. Ghana can become a developed nation without a comprehensive Technical/Vocational Education and Training from the basic level to the Tertiary level. ☐ ☐ ☐ ☐ ☐

5.Technical/Vocational Education is relevant to national development ☐ ☐ ☐ ☐ ☐

Section 'C'

Challenges facing Technical/Vocational Education and Training in Ghana.

To what extent do you agree to the following statements? Please Tick √ one box in each row. ☐ ☐ ☐ ☐ ☐

Statements	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
1. Lack of academic progression for Technical/Vocational	☐	☐	☐	☐	☐

graduates.					
2. Lack of interest in Technical Programmes by the youth.	☐	☐	☐	☐	☐
3. Lack of qualified technical teachers.	☐	☐	☐	☐	☐
4. Lack of modern teaching and learning equipment and facilities	☐	☐	☐	☐	☐
5. Technical/ Vocational Education and Training are expensive.	☐	☐	☐	☐	☐
6.Technical/Vocational Training must be plausible choice and not a last resort	☐	☐	☐	☐	☐
8. The need to reorganize TVET from basic level	☐	☐	☐	☐	☐

to tertiary level

Section 'D'

Factors influencing low participation in Technical programmes.

To what extent do you agree to the following statements? Please Tick √ one box in each row.

Statements	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
1.Lack of patronage of Technical programmes in Sunyani Polytechnic is due to high cost of admission forms	☐	☐	☐	☐	☐
2. Inadequate Technical institutes in the Brong Ahafo Region to turn out eligible candidates to pursue Technical programmes in Sunyani Polytechnic have impacted negatively on enrolment.	☐	☐	☐	☐	☐

3. Lack of boarding and lodging facilities for young students who pursue Technical programmes in Sunyani Polytechnic has affected enrolment.	☐	☐	☐	☐	☐
4. High school fees charged in Sunyani Polytechnic has contributed to low participation in technical programmes in Sunyani Polytechnic.	☐	☐	☐	☐	☐

Section 'E'

How low participation of students in Technical/Vocational programmes affect a nation.

What problems will the nation face if it remains unsolved? Please Tick √ one box in each row.

Statements	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree

1. If many people shun TVET, more unskilled people will be produced.	☐	☐	☐	☐	☐
2. There will be a lot of unemployable graduates in the system	☐	☐	☐	☐	☐
3. Criminals will abound in the country.	☐	☐	☐	☐	☐
4. The country's development will continue to be very slow.	☐	☐	☐	☐	☐

Section 'F'

People's perception about Technical/Vocational programmes.

Statements	Very High	High	Low	Very Low
1. How would you rate the popularity of TVET	☐	☐	☐	☐
2. How would you rate the quality of TVET	☐	☐	☐	☐
3. To what extent do you agree	☐	☐	☐	☐

that the public view TVET as an area for low achievers or dropout?

Section 'G'

Interventions to improve participation in the TVET programmes.

1. Suggest ways to improve enrolment in Technical/Vocational programmes

   ……

   ……

   ……

   ……

2. In what ways can students who pursue Technical/Vocational programmes be motivated?

……

……

……

…… ……

3. What measure should have to be put in place to make TVET school graduates become productive?

……

……

……

APPENDIX B

FACTORS AFFECTING STUDENTS PARTICIPATION IN TECHNICAL PROGRAMMES AT SUNYANI POLYTECHNIC

Questionnaires administered to students at the Sunyani Polytechnic.

The purpose of this questionnaire is to obtain information about factors influencing low participation of students in Technical Programmes at the Sunyani Polytechnic.

All responses that relate to or describe identifiable characteristics of individuals may be used only for academic purposes and may not be disclosed or used for any other purpose. The information you provide will be combined with the information provided by others in a project report. Your responses would be kept confidential.

INSTRUMENT 'A'

The areas covered are;

a. Demographic data
b. Importance of Technical and Vocational Education and Training.
c. Challenges facing Technical and Vocational Education and Training in Ghana.
d. Factors influencing low participation in Technical/ Vocational Education and Training Programmes.
e. Effect of low participation of the youth in Technical Programmes
f. Public perception of Technical/ Vocational Programmes

g. Interventions to improve participation in Technical and Vocational Programmes.

Section 'A'

DEMOGRAPHIC DATA

1. Age…….. 2. Sex…….

3. Department……. 4. Programme…….

Section 'B'

Beneficiaries of TVET Programmes.

To what extent do you agree to the following statements? Please Tick √ one box in each row.

Statements	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
1.Technical/Vocational Education and Training is for low achievers only	☐	☐	☐	☐	☐
2.Technical/Vocational Education is for school drop outs	☐	☐	☐	☐	☐
3.Everybody requires some form of Technical/Vocational	☐	☐	☐	☐	☐

Education

4. Ghana can become a developed nation without a comprehensive Technical/Vocational Education and Training from the basic level to the Tertiary level.	☐	☐	☐	☐	☐
5.Technical/Vocational Education is relevant to national development	☐	☐	☐	☐	☐

Section 'C'

Challenges facing Technical/Vocational Education and Training in Ghana.

To what extent do you agree to the following statements? Please Tick √ in one box that best describes your response.

Statements	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
1. Lack of academic progression for Technical/Vocational graduates.	☐	☐	☐	☐	☐

2. Lack of interest in Technical Programmes by the youth.	☐	☐	☐	☐	☐
3. Lack of qualified technical teachers.	☐	☐	☐	☐	☐
4. Lack of modern teaching and learning equipment and facilities	☐	☐	☐	☐	☐
5. Technical/ Vocational Education and Training are expensive.	☐	☐	☐	☐	☐
6.Technical/Vocational Training must be plausible choice and not a last resort	☐	☐	☐	☐	☐
7. The system of Education in Ghana is producing more unskilled and severely underemployed workforce	☐	☐	☐	☐	☐
8. There is the need to reorganize TVET from basic level to tertiary level	☐	☐	☐	☐	☐

Section 'D'

Factors influencing low participation of students in TVET programmes.

Please Tick √ one box in each row given below that best describes your response.

Statements	True	False
1. High cost of admission forms in Sunyani Polytechnic	☐	☐
2. Lack of Technical institutes to serve as breeding grounds for students who will pursue technical programmes at Sunyani Polytechnic.	☐	☐
3. Absence of boarding and lodging facilities to entice students who wish to pursue technical programmes in S- Poly	☐	☐
4. High cost of school fees in Sunyani Polytechnic.	☐	☐

Section 'E'

How low participation of students in Technical/Vocational programmes affect a nation

What problems will the country face if people shun Technical/Vocational Education?

Please Tick √ one box in each rows that best describes your response.

Statements	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
1. If many people shun TVET more unskilled people will be produced.	☐	☐	☐	☐	☐
2. There will be a lot of unemployable graduates in the system	☐	☐	☐	☐	☐
3. Criminals will abound in the country.	☐	☐	☐	☐	☐
4. The country's development will continue to be very slow.	☐	☐	☐	☐	☐

Section 'F'

People's perception about Technical/Vocational programmes.

Please tick √ the box that best describes your response.

Statements	Very High	High	Low	Very Low
1. How would you rate the popularity of TVET	☐	☐	☐	☐
2. How would you rate the quality of TVET	☐	☐	☐	☐
3. To what extent do you agree that the public view TVET as an area for low achievers or dropout?	☐	☐	☐	☐

Section 'G'

Measures to be taken to improve enrolment of students in the school of engineering in Sunyani Polytechnic.

1. What measures should be taken to increase enrolment?

……

……

……

……

2. How can students be encouraged to develop interest in TVET programmes?

……

……

……

……..

3. What will you do after graduation and what assistance will you require?

……

……

……

…….

APPENDIX C

FACTORS AFFECTING STUDENTS PARTICIPATION IN TECHNICAL PROGRAMMES AT SUNYANI POLYTECHNIC

Questionnaires administered to trainees of RTTC and Sunyani garages.

The purpose of this questionnaire is to obtain information about factors influencing low participation of students in Technical Programmes at the Sunyani Polytechnic.

All responses that relate to or describe identifiable characteristics of individuals may be used only for academic purposes and may not be disclosed or used for any other purpose. The information you provide will be combined with the information provided by others in a project report.

Your responses would be kept confidential.

INSTRUMENT 'A'

The areas covered are;

A. Personal data
B. Importance of Technical and Vocational Education and Training.
C. Challenges facing Technical and Vocational Education and Training in Ghana.
D. Factors influencing low participation in Technical/ Vocational Education and Training Programmes.
E. Effect of low participation of the youth in Technical Programmes
F. Public perception of Technical/ Vocational Programmes

G. Interventions to improve participation in Technical and Vocational Programmes.

Section 'B'

Beneficiaries of TVET Programmes.

Please Tick √ a box that best describes your response.

Statements	True	False
1. Vocational Training is designed for people who can not attend Secondary school.	☐	☐
2. Vocational Training is for people who are not intelligent	☐	☐
3. Vocational Training can be pursued by anybody.	☐	☐
4. Vocational Training is good and can promote development	☐	☐

Section 'C'

Problems facing Vocational Training.

Please Tick √ one box in each row that best describes your response.

Statements	True	False
1. I can do a higher programme at the Polytechnic after Training	☐	☐
2. Many people do not like Vocational Training	☐	☐
3. There are no good Training equipment at the Training centre	☐	☐
4. There is no certificate after Training	☐	☐
5. Money for Training is not enough	☐	☐

Section 'D'

Reasons for the low participation of people in apprenticeship training.

Please Tick √ one box in each row that best describes your response.

Statements	True	False
1. Many people do not like Vocational Training because they do not have interest.	☐	☐
2. Vocational Training is difficult.	☐	☐
3. No adequate support for trainees.	☐	☐
4. Trainees cannot do further studies.	☐	☐
5. It is not easy to get employment after training.	☐	☐

Section 'E'

Problems that people who refuse to attend school or undergo training pose to the society.

1. List some of the problems

……

……

……

……

Section 'F'

People's perception about Vocational Training

Please Tick √ one box in each row that best describes your response.

Statements	True	False

1.	Many people prefer VOTEC to other programmes.	☐	☐
2.	People see VOTEC as an inferior programme.	☐	☐
3.	People regard apprenticeship training as a programme for school dropouts.	☐	☐

Section 'G'

What should be done to encourage more people to pursue vocational programme?

1. What do you expect the government and NGO's to do for you in your training?

……

……

……

……

2. In what ways can you bring more people to be trained?

……

……

……

……

3. How can people be encouraged to stay and acquire employable skills?

……

……

4. What will you do after training?

……

……

……

……

APPENDIX D

FACTORS AFFECTING STUDENTS PARTICIPATION IN TECHNICAL PROGRAMMES AT SUNYANI POLYTECHNIC.

Questionnaires administered to trainers/master craftsmen. The purpose of this questionnaire is to obtain information about factors influencing low participation of students in Technical Programmes at the Sunyani Polytechnic.

All responses that relate to or describe identifiable characteristics of individuals may be used only for academic purposes and may not be disclosed or used for any other purpose. The information you provide will be combined with the information provided by others in a project report. Your responses would be kept confidential.

INSTRUMENT 'A'

The areas covered are;

a. Demographic data
b. Importance of Technical and Vocational Education and Training.
c. Challenges facing Technical and Vocational Education and Training in Ghana.
d. Factors influencing low participation in Technical/ Vocational Education and Training Programmes.
e. Effect of low participation of the youth in Technical Programmes
f. Public perception of Technical/ Vocational Programmes
g. Interventions to improve participation in Technical and Vocational Programmes.

Section 'A'

DEMOGRAPHIC DATA

1. Age…….. 2. Sex……

3. Department……. 4. Programme…….

Section 'B'

Beneficiaries of TVET Prigrammes.

To what extent do you agree to the following statements? Please Tick √ one box in each row that best describes your response.

Statements	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
1.Technical/Vocational Education and Training is for low achievers only	☐	☐	☐	☐	☐
2.Technical/Vocational Education is for school drop outs	☐	☐	☐	☐	☐
3.Everybody requires some form of Technical/Vocational Education	☐	☐	☐	☐	☐

4. Ghana can become a developed nation without a comprehensive Technical/Vocational Education and Training from the basic level to the Tertiary level.	☐	☐	☐	☐	☐
5.Technical/Vocational Education is relevant to national development	☐	☐	☐	☐	☐

Section 'C'

Challenges facing Technical/Vocational Education and Training in Ghana.

To what extent do you agree to the following statements?

Please Tick √ one box in each row that best describes your response.

Statements	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
1. Lack of academic progression for Technical/Vocational graduates.	☐	☐	☐	☐	☐

2. Lack of interest in Technical Programmes by the youth.	☐	☐	☐	☐	☐
3 People do not want their children to pursue apprenticeship training.	☐	☐	☐	☐	☐
4. Lack of modern teaching and learning equipment and facilities.	☐	☐	☐	☐	☐
5. Technical/ Vocational Education and Training are expensive.	☐	☐	☐	☐	☐
6.Technical/Vocational Training must be plausible choice and not a last resort	☐	☐	☐	☐	☐
7. The system of Education in Ghana is producing more	☐	☐	☐	☐	☐

unskilled and severely underemployed workforce					
8. The need to reorganize TVET from basic level to tertiary level	☐	☐	☐	☐	☐

Section 'D'

<u>How low participation of students in Technical/Vocational programmes affect a nation.</u>

What problems will the country face if people shun Technical/Vocational Education.

Please Tick √ one box in each row that best describes your response.

Statements	Strongly agree	Agree	Undecided	Disagree	Strongly Disagree
1. If many people shun TVET, more unskilled people will be produced.	☐	☐	☐	☐	☐
2. There will be a lot of unemployable graduates in the system	☐	☐	☐	☐	☐

3. Criminals will abound in the country.	☐	☐	☐	☐	☐
4. The country's development will continue to be very slow.	☐	☐	☐	☐	☐

Section 'E'

People's perception about Technical/Vocational programmes.

Please response to each item by ticking √ the box that best describes your response.

Statements	Very High	High	Low	Very Low
1. How would you assess the popularity of TVET	☐	☐	☐	☐
2. How would you rate the quality of TVET	☐	☐	☐	☐
3. To what extent do you agree that the public view TVET as an area for low achievers or	☐	☐	☐	☐

dropout?

Section 'F'

Interventions to improve participation in the TVET programmes.

4. Suggest ways to improve enrolment in Technical/Vocational programmes

……

……

……

5. In what ways can students who pursue Technical/Vocational programmes be motivated?

……

……

……

6. What measures should have to be put in place to make TVET school graduates become productive?

……

……

……

APPENDIX E

FACTORS AFFECTING STUDENTS PARTICIPATION IN TECHNICAL PROGRAMMES AT SUNYANI POLYTECHNIC

Questionnaires administered to J.H.S/ S.H.S students.

The purpose of this questionnaire is to obtain information about factors influencing low participation of students in Technical Programmes at the Sunyani Polytechnic.

All responses that relate to or describe identifiable characteristics of individuals may be used only for academic purposes and may not be disclosed or used for any other purpose. The information you provide will be combined with the information provided by others in a project report.

Your responses would be kept confidential.

.**Section 'A'**

Demographic Data

1. Age…….. 2. Sex…….

3. Department……. 4. Programme…….

Section 'B'

Beneficiaries of TVET Programmes.

What is the importance of Technical Vocational Education?

Please Tick √ as many responses as applicable to express your acceptance of the following.

1. Technical/ Vocational Education and Training not suitable for interlligent

people

2. Technical/ Vocational Education and Training is for school dropouts ☐
3. Technical/ Vocational Education and Training is for everybody ☐
4. Ghana do not need TVET ☐

Section 'C'

Peoples view on Technical/ Vocational Education.

Please Tick √ one option in each row that best describes your response

STATEMENTS	Yes	No
1. Would you like to pursue Technical/Vocational Eucation after your course?	☐	☐
2. Do many people like Technical/ Vocational Education?	☐	☐
3. Would your parents allow you to pursue Technical/ Vocational Education after your course?	☐	☐

Section 'D'

Measures to improve enrolment of students in Technical/ Vocational programmes

1. How can enrolment of students in Technical/ Vocational programmes be improved

……

……

……

……

2. Should students who pursue Technical/Vocational programmes be treated differently? Give reasons

……

……

……

……

APPENDIX F

A THREE-MEMBER COMMITTEE REPORT ON PROBLEMS AFFECTING ENROLMENT OF STUDENTS AT THE FC/C&J SECTION OF THE BUILDING TECHNOLOGY DEPARTMENT OF SUNYANI POLYTECHNIC

1 BACKGROUD

A three-member committee was by a letter dated 5th January 2006 authorized to find solutions to the low enrolment of students to participate in programmes at the Department.

2. TERMS OF REFERENCE

- To identify causes of decline in enrolment of students at the section.
- To propose measures to improve upon enrolment of students.
- To initiate measures to retain students till the end of the course.

3. COMMITTEE MEMBERS

1. Alfred Nii Martey – Chairman
2. Drah Emmanuel – Member
3. Alex Peprah - Secretary

4. FINDINGS

The committee had series of meetings coupled with interviews and discussions to arrive at the following findings.

5. IDENTIFICATION OF PROBLEMS

The committee identified the following factors influencing low enrolment of students to participate in programmes at the department

- High cost of admission forms.
- Emergence of private technical institutes in the Brong Ahafo Region
- Lack of interest in pursuing technical programmes by the youth in the sub-region.
- The absence of a Technical Institute to serve as a preparatory institute to feed the section with students who qualify to pursue advanced programmes.
- Lack of academic progression for advanced students who do not have English and Mathematics.

6. SOLUTIONS TO THE ENROLMENT PROBLEMS

The committee recommends that

- Cost of admission forms should be reduced for students who wish to enroll at the Department. The justification is that the J.S.S. graduates who gain admission to S.S.S. do not buy forms. We should also emulate Tamale Polytechnic.
- They have been able to provide boarding and lodging facilities to students who pursue intermediate programmes.

- Sunyani Polytechnic should actively participate in S.S.S selection exercise to recruit students to pursue programmes at the FC/C&J section of the Building Technology Department.
- The Polytechnic should educate the public on programmes available for the youth at the Department with emphasis on the relevance and significance of Technical Education.
- The Polytechnic should liaise with other Technical/Secondary Technical Institutions to recruit students.
- As part of boosting the interest of the youth, durbars should be held by the Building Technology Department and exhibition on students' project should form part of the programme.
- Excellence award be instituted so that deserving students/tutors be given awards for presenting excellent designs and projects.
- Mode of payment of school fees should be flexible. It should be spread over two semesters.
- The introduction of higher courses in Furniture/Carpentry and Joinery to be known as H.N.D Wood Technology.
- Students must be made to enroll and register English & Mathematics so that at the end of their course they will have all the requirements to do the H.N.D programme.

7. CONCLUSION

On the issue of improving upon enrolment at the FC/C&J section, a vigorous enrolment drive coupled with the introduction of higher programmes will offer a window of hope for eligible students to progress academically.

The committee hopes that this report will be carefully studied, accepted and implemented for the smooth running of the section.

APPENDIX G

INTERVIEW GUIDE

INTRODUCTION- I am pursuing MED (Administration) at the University of Cape Coast, and researching into the factors affecting students' low participation in Technical programmes at the Sunyani Polytechnic. I promise to treat all your personal view points as confidential material.

Thank you.

1. **Enrolment trends in Sunyani Polytechnic**
   - i Are you aware of the low level of enrolment of students who pursue Technical programmes in the Sunyani Polytechnic?

     Respondent:
   - ii Is it a peculiar problem only in Sunyani Polytechnic?

     Respondent:
   - iii Do you have data on the participation levels of students who pursue Technical programmes in this Polytechnic?

     Respondent:
2. **The role of Vocational/ Technical Education and Training in national development**
   - i What is the role of Vocational/ Technical Education in National Development?

     Respondent:

3. Causes of low patronage of technical programmes

i What are the causes of the low patronage of the Technical/ Vocational programmes in the Sunyani Polytechnic?

a. ……

b. ……

c. ……

d. ……

e. ……

ii Is it possible that admission procedures have contributed to low patronage of Technical programmes in the Polytechnic? Please, can you explain further?

Respondent:

iii Do you have Technical Institutes in the Region to prepare students to patronize Technical programmes in the Polytechnic?

Respondent:

iv How do the public view Technical Education?

4. Finding solutions to enrolment problems

i What measures do you think can be adopted to improve the low participation levels in Technical programmes?

Respondent:

APPENDIX H

ENROLMENT TRENDS

Table 1

Enrolment of students at the FC/C&J Department from 1990 to 1998

Year	FC, Full time	FC, part time	C & J full time	C & J part time
1990/1991	30	17	29	27
1991/1992	33	27	21	31
1992/1993	36	22	34	25
1993/1994	37	18	36	26
1994/1995	32	30	25	21
1995/1996	32	29	33	23
1996/1997	42	27	30	26
1997/1998	44	21	31	24
Total	286	181	239	203
Grand Total	467		442	

As shown in Table1, there was high enrolment of students during the Technical Institute period that preceded the establishment of the Sunyani Polytechnic.

The problem of low participation of students in the above mentioned programmes in Sunyani Polytechnic poses a great challenge to the institution especially at this stage of the country's technological development. The question that arises invariably is; "What are the factors responsible for the low enrolment

into Technical programmes?" Another challenge is how to retain students on the various programmes until they graduate.

Table 2

Enrolment of FC/C&J students from 1999-2008 (Polytechnic period)

Year	FC	C & J
1999/2000	15	27
2000/2001	6	30
2001/2002	11	23
2002/2003	12	34
2003/2004	9	22
2004/2005	11	21
2005/2006	8	19
2006/2007	1	31
20067/2008	1	26
Total	74	233

As shown in Table 2 there was decline of enrolment of students in Technical programmes at the Sunyani Polytechnic from 1999 to 2008.

Table 3

Summary

Courses	1990-1998	%	1999-2008	%
FC (a)	467	86.3%	74	13.7%
C & J (b)	442	65.5%	233	34.5%

Enrolment of students in Furniture craft reduced from a total of 467 (86.3%) to 74 (13.7%) and in the case of carpentry and Joinery, total enrolment dropped from 442 (65.5%) to 233 (34.5%). Refer to table 3.