



THE MINISTRY OF EDUCATION
& HUMAN RESOURCE DEVELOPMENT

CREATING KNOWLEDGE HOUSEHOLDS

Framework for the Reform of Tertiary Education in Barbados



2012

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Chairman's Preface

Theme:

From “At least one graduate per household” to “Creating Knowledge Households”

The onset of the 21st Century has witnessed the widespread implementation of new approaches to tertiary education financing that were globally discussed in the last quarter of the 20th Century. The liberalisation of tertiary education systems as part of the services economy has exposed the sector to aggressive market forces like any other. In developing countries especially a principal policy tension, with intense political implication, has emerged between the conception of higher education as a public good and its financial treatment as a commodity.



In the Caribbean, severe fiscal challenges of governments, declining profitability and reserves in the private sector, and rising emigration levels within professional classes, have resulted in the policy targeting of tertiary education. The call is for greater efficiency and accountability within the sector. The concern is that the conversation has triggered reduced government support and uninformed criticism of the sector's relative value. Stakeholders are engaged in a critical discourse that situates government at the centre of a 'time to choose' scenario. Many eyes are now focussed on what is universally referenced, with reverence, in education circles as "The Barbados model".

Tertiary education in Barbados has long been viewed as the nucleus and seedbed of development and sustainability in the nation-building project. It is a contribution in teaching, learning, innovation and research, civics, culture, and to the values vernacular that constitutes the nation. The professional transformation of the human resource has been the critical factor driving economic sustainability. This understanding has served to elevate tertiary institutions as development tools within the public imagination. The legacy is long standing and respected.

The collective effort of the sector is an impressive performance that contributed significantly to Barbados' recent recognition as a 'developed' state reaching the ranking of 47th on the United Nations Development Programme (UNDP) Human Index. But it is also understood that the sector has challenges particularly with regard to its institutional fragmentation. This disarticulation represents an area for change and transformation in the search for cost efficiency, programme relevance, and management accountability.

What is now required is the forging of an integrated, cohesive, synergistic tertiary education system that recognises the distinct roles and mandates of the regional University of the West

Indies at Cave Hill and national institutions - creating an architecture that represents greater rationality in resource use and a keener expression of intellectual creativity in its management. To this end it has been my honour and pleasure to serve as Chairman of the Steering Committee for the Reform of Tertiary Education in Barbados.

Creating Knowledge Households: A New Vision

This document, entitled “Creating Knowledge Households: A Framework Document for the Reform of Tertiary Education in Barbados 2012”, represents a review of trends in the tertiary landscape from 2000-2010 and offers recommendations for a more flexible, relevant and cost effective system of provision that is responsive to the changing needs of Barbados, and the region.

It is, in part, a response to the criticisms of the 20/20 vision rolled out in 2002 that each household in the nation should have at least one tertiary graduate. The “At least one graduate per household” vision sought to mobilise resources for an expansion of enrolment both in the UWI and national colleges. It was a popularly acclaimed vision but has attracted the criticism that its quantitative focus did not address explicitly the question of quality. While quality assurance was always implied and embedded within the concept, and taken as a given, commonsense in fact, political discourse called for the shift of focus from the number of households to the internal characteristics and experience of these households. This seems an appropriate commentary. This report represents a positive response to these criticisms.

What is a knowledge household? Knowledge households are domestic units that contain tertiary students and graduates. These knowledge households possess a learning and professional ethos, invested with learning tools and technologies such as computers and broadband internet, committed to self-empowering entrepreneurial ventures among other things. Each knowledge household is committed to the educational development of its human resource. **Why do we need to focus on the creation of knowledge households?** Knowledge households will be the building blocks of knowledge societies and competitive knowledge economies. The effective creation of such knowledge households holds the key to the sustainable development of our nation as a knowledge economy in the 21st century and beyond.

Hilary Beckles, K.A.

Pro Vice Chancellor and Principal, Cave Hill Campus

Executive Summary

The Governments in Barbados have long recognised that a quality tertiary education sector is critical to the development and sustainability of the nation. From the 1960s, they have acknowledged the importance of funding, fully, access to education from primary to the tertiary levels. This policy framework has served Barbados well over the years. After 50 years of success, Government has called for a policy rethink in light of its eroding fiscal and financial circumstance. The focus, it says is sustaining the excellence achieved at reduced costs to the public.

This framework document has been commissioned by the Minister of Education and Human Resource Development, The Honourable Ronald Jones, for the purpose of engaging public conversation on the realities of financing tertiary education and the need to identify alternative funding models which would continue to make tertiary education affordable and accessible to all citizens.

The text begins with the historical perspective of investing in the tertiary education sector and posits the need for some reform. It reiterates that all post-independence Caribbean governments recognised that expanding investment in human capital was vital to nation building. Between 1996 and 2006, the Barbados student population at Cave Hill Campus doubled from 3000 to 6000, and correspondingly government's investment in the university increased by 114.3 %. Support for the Barbados Community College (BCC), Samuel Jackman Prescod Polytechnic (SJPP) and Erdiston Teachers' Training College (ETTC) in terms of finances and physical resources has also increased significantly over the years.

Despite the many discernible national benefits of the tertiary education sector, there has been a call from sections of the public that the tertiary education funding model needs adjustment. While the social majority has not spoken on this matter, minority voices have solicited responses from government officials. Such responses have called for a better understanding of the sector's economic and academic performance, as well as the need for a closer conversation in respect of its strategic planning.

An overview of each tertiary education campus with SWOT analysis is presented. While each institution indicates that flexible programme offerings and well trained professional staff are strengths of which they can be proud, fiscal instability and physical constraints remain the main threats and challenges.

The mandate calls for an analysis of relevant data - campus and government documents, student performance records and other databases - in order to determine an accurate picture of the per capita cost of enrolment and throughput trends. The document addresses the challenges and limitations associated with the data collection process. It advocates the need to establish a networked tertiary education sector with common practices of collecting, recording, storing, retrieving and sharing important data.

The four campus principals examined their respective institutions in relation to student support, governance and administration, curriculum, programme capacity, student access and financing. The spectre of inadequate financing underpinned all performance considerations. The available data show that all institutions are performing at creditable levels, supporting students and offering relevant, quality programmes. The efforts to continue staff training and institutional strengthening have been commendable. The recommendations for improvement given by each principal should enrich the public conversation on tertiary education reform.

Throughout this document, reference is made to the need for a networked, synergistic tertiary education system. A section sets out the impact of technology and the opportunity to link campuses through various Caribbean Knowledge Learning Network (CKLN) projects. A national learning network will facilitate the sharing of information and resources by enabling institutions to interface seamlessly.

The conversation on tertiary education reform invokes the themes of gender inequity and equality of access. This document engages the increasing imbalance in the ratio of female to male students in enrolment and performance. The data show growing enrolment of males at the SJPP and a steady increase at The UWI in science programmes. This revelation should also stimulate focussed discussion on gender ratios in tertiary education.

All institutions confirmed their commitment to offering a quality student experience. The status of Quality Assurance policies and Quality Enhancement facilities is discussed. Each

institution speaks to its work in collaboration with the Barbados Accreditation Council in respect of attaining and sustaining registration and accreditation. Of significance, the committee has recommended the establishment of a National Tertiary Education Commission for the oversight of the sector, with the specific mandate of ensuring a networked, synergistic system.

Also of critical importance to the completion of this document, and future conversations on the viability of tertiary education in Barbados, is the proposed revised funding model. The data demonstrate increasing demand for access to tertiary education in the country. Increasing demand and the concomitant call for increased government investments, payment of tuition fees and other economic costs - are addressed against the backdrop of a climate of economic uncertainty. A significant adjustment to the funding model is proposed with a view to securing the tradition of accessibility as a vital public good. Models of funding tertiary systems in selected countries - in particular Singapore, Canada, United Kingdom, Australia, Jamaica and Trinidad and Tobago-were examined and have shaped the thinking which underpins the recommendations for a revision in the traditional model.

Tertiary education has a pivotal role to play in the building of knowledge households in Barbados. Such households are required to secure the nation's pride of place within the global space. These reforms can serve to promote critical self-analysis and targeted action. In other words, the tertiary sector in Barbados should use this moment to revitalise itself.

This framework document was produced by tertiary level professionals and practitioners from four campuses- The University of the West Indies at Cave Hill, The Barbados Community College, The Samuel Jackman Prescod Polytechnic, and Erdiston Teachers' College; the Ministry of Education and Human Resource Development including the Higher Education Development Unit; and the Barbados Accreditation Council who comprised a commissioned committee. The committee members have demonstrated their commitment to change and to working together.

Acknowledgements

This framework for tertiary education reform in Barbados has been prepared at the request of the Minister of Education and Human Resource Development who commissioned a team of workers to undertake the task. The process was guided by the Chairman of the steering committee, Professor Sir Hilary Beckles. The efforts of the committee members to attend all meetings and contribute valuable suggestions and articles throughout the process of preparing the document are appreciated. The following steering committee members are acknowledged:

Professor Sir Hilary Beckles; Dr. Patrick Rowe; Ms. Valda Alleyne; Dr. Gladstone Best; Mr. David Clement; Mr. Anthony Headley (later replaced by Mr. Hector Belle); Mrs. Barbara Parris; and Dr. Roderick Rudder.

A number of other persons, although not part of the constituted steering committee, have made valuable contributions toward this finished product. They have generously given advice or offered technical expertise throughout the process. These persons are as follows:

Ms. Joan Cuffie; Mrs. Gale Hall, Mr. Anthony Headley, Dr. Sylvia Henry, Ms. Petrona Holder, Ms Sandra Martindale, Mrs. Margaret Mongerie, and Dr. Winston Moore.

Presentation of Terms of Reference

With effect from May 01, 2011 the Minister of Education and Human Resource Development, the Honourable Ronald Jones, commissioned the establishment of the Steering Committee for Tertiary Education Reform in Barbados. Work commenced on August 29, 2011.

The members of the steering committee are as follows:

- The Principal, The University of the West Indies, Cave Hill Campus – Chairman
- The Director, Higher Education Development Unit – Deputy Chairman
- The Principal, Barbados Community College
- The Principal, Samuel Jackman Prescod Polytechnic
- The Principal, Erdiston Teachers' Training College
- The Executive Director, Barbados Accreditation Council
- A Representative of the Planning and Research Department, Ministry of Education and Human Resource Development
- Senior Education Officer (Tertiary)

The Terms of Reference of the Committee are as follows:

1. Submit to the Ministry of Education and Human Resource Development after six (6) months a framework for the reform of tertiary education in Barbados.
2. Provide an analysis of data for the period 2000-2010 for post secondary matriculation trends of Barbadian students: a disaggregation assessment of the admission and demand profiles, graduation and performance rates across accepted demographic ranges of the University of the West Indies, Barbados Community College, Samuel Jackman Prescod Polytechnic and Erdiston Teachers' Training College.
3. Review the current structure within the stated four (4) tertiary institutions and make recommendations that speak to improvements in operations, governance, programming, student support and fees.

4. Provide guidance and direction to the Committee on Gender Inequity in Post-Secondary Matriculation.
5. Make recommendations to the Minister of Education and Human Resource Development as to how access for more students at the post secondary level can be achieved in the short, medium and long term.
6. Provide feedback on the direction of the National Research and Education Network facilitated by Caribbean Knowledge Learning Network.

Tertiary Education Partners Committing to Tertiary Education Reform in Barbados

The following persons are demonstrating commitment to the building of a synergistic and networked tertiary education system in Barbados. On behalf of the committee members and as evidence of their full commitment, the Chairman has affixed his signature.

Professor Sir Hilary Beckles *Chairman (The UWI, Cave Hill)*

Dr. Patrick Rowe *Deputy Chairman (HEDU)*

Ms. Valda Alleyne *Member (Barbados Accreditation Council)*

Mr. Hector Belle *Member (Samuel Jackman Prescod Polytechnic)*

Dr. Gladstone Best *Member (Barbados Community College)*

Mr. David Clement *Member (MEHRD) Tertiary*

Mrs. Barbara Parris *Member (Erdiston Teachers' Training College)*

Dr. Roderick Rudder *Member (MEHRD) Planning*

Definitions and Philosophy of Tertiary Education

Since tertiary education and higher education have been used interchangeably in public policy and academic circles it is important that the terms be defined.

The World Bank suggests that tertiary education:

broadly refers to all post-secondary education, including but not limited to universities. Universities are clearly a key part of all tertiary systems, but the diverse and growing set of public and private tertiary institutions in every country- colleges, technical training institutes, community colleges, nursing schools, research laboratories, centres of excellence, distance learning centres, and many more- forms a network of institutions that support the production of the higher-order capacity necessary for development.

For UNESCO, higher education includes *all types of studies, training or training for research at the post-secondary level, provided by universities or other educational establishments that are approved as institutions of higher learning by competent State authorities.*

In a concept paper developed for CARICOM, Bhoendradatt Tewarie (2009) offers a definition of tertiary education that includes *the teaching and learning process that occurs following the completion of secondary education and provides academic credits and competencies that lead to certificates, diplomas and degrees from universities, university colleges, polytechnics, community colleges and similar institutions.*

The use of selected terminology to define post-secondary training and education is common. However, there appears to be increasing synonymy in the definition for both modern tertiary and higher education. In all cases, the terms appear to be inclusive of the full range of post-secondary education and training.

While The UWI has been moving in the direction of defining itself as an emerging research facility with a full postgraduate profile, BCC, ETTC and SJPP have been consolidating their teaching and instruction identity. But more important than programme progression have been

matters such as autonomy in governance and funding limitations that impact their vision. Should the SJPP, for example offer a full range of science and technology Associate degrees? Should BCC offer postgraduate studies and more Bachelor's degree programmes? Should ETTC primarily deliver The UWI programmes?

The discourse on institutional boundaries for technical, vocational and liberal arts education, typical in developing countries, is not common to Barbados. Some governments in addition to regional universities have established national universities; others have focussed on carefully planned expansion in technical disciplines that support the demands of the labour market; others have called upon the private sector, local and international, to interact with national institutions in order to support capacity building. (Grubb, 2003).

The case of Barbados is distinctive. This country is seeking continued consensus trying to find the consensus on the right balance of tertiary breadth with a viable funding model. As it moves into the second decade of the 21st century, the challenge is to sustain an affordable funding model that secures teaching, research and learning outcomes at all levels for motivated citizens. In addition, it is recognised that for-profit education will inevitably become a fixture on the landscape and should be encouraged. As families become more economically affluent, technologically savvy, and socially sophisticated diversity in programme content will be a feature of the demand. This is already evident in the information and communication sector that is shaping education and training for the digital age. The next twenty years will see expanded education and training in innovation, science and technology as key drivers of economic transformation. The need for a revised, viable funding model that stabilizes and incentivises institutions is therefore the single most important national education imperative.

Historical Perspective of Tertiary Education Sector in Barbados and the Need for Reform

Background to Educational Developments

The founders of the nation recognized that its primary resource was its people and sought to promote its development within the context of national, regional and international education provision. The significant investment this entailed in the national and regional system of education has been a core part of a conscious commitment by Governments. The investment in human capital has led to a relatively high level of education attainment among Barbadians. This process has become a part of the Barbadian identity, and is considered a significant asset in the information age.

The philosophy underlying the policies of governments to publicly fund tertiary education is that the investment is an important instrument in the social and economic transformation of the country. Tertiary education is seen as the engine driving the building of a 'just society'. It provides equality of opportunity for individuals to socially advance and to play a significant role in the life of the community by enhancing their participation in political and social institutions.

The Government of Barbados in its Development Plan 1965- 1968, targeted the 'grass roots' and provided opportunities for trades training and technical education. The provision of \$400,000 for a Trades Training Centre was identified. The democratising significance of this development to the country's modernization was fully understood. New courses in electronics and refrigeration for example, opened up the science and technology learning environment. Training in business studies was added which enhanced quality in secretarial proficiencies and office management.

As the country sought to reduce financial dependence on the export of sugar as its main foreign earner, tourism was promoted as the best alternative. The prosperity and sustainability of the tourist industry depended in large measure on having competent

personnel at the service and managerial levels. With the assistance of the Canadian Technical Aid Programme, and a joint effort by the Tourist Board and Barbados Hotels Association, a plan was implemented to train workers over a three year period. This education and training assured the creation of a skilled human resource to meet the needs of the fledgling industry.

Concomitantly, it was perceived that for citizens to be educated, policy practitioners had to be themselves trained at an appropriate level. Following the admission of teachers at the Rawle Training Institute which had been attached to Codrington College, Erdiston Teachers' College for example, was officially opened in 1948. It offered a one year training course in Education, and included English, Mathematics, Social Studies, Religious Knowledge, Health, Physical Education, Music, Home Economics, Woodwork, Gardening, Visual Aids and Art.

Erdiston College has undergone significant reforms in its pedagogy. Teachers in the system who do not possess a Bachelor's degree undertake a course of training for two years, with paid leave. Government also sponsors the one year Diploma in Education for graduate teachers, and the Certificate in Management and Administration at the School of Education to all qualified teachers of not less than three (3) years' experience. There is, once again, a compelling need to review Erdiston's strategy and structure.

Government, however, recognised the need to go beyond technical skills training and to promote broad based higher education options in Pure and Applied Sciences, the Humanities, Social Sciences, and Law. Established in Bridgetown in 1963, The University of the West Indies (UWI) College of Arts, which was expanded at Cave Hill in 1967, benefitted from a British government contribution of \$1,920,000. The Barbados Government provided the land and financed the operational budget.

Since then the Government of Barbados has financed tertiary education for Barbadian enrolled at The UWI. The growth of this investment in tuition has been spectacular. The UWI has billed the government for student tuitions as follows: \$27,997,500- 1995-96; \$45,845,629 -1997/98; \$43,000,000-1999/00; \$73,000,000 -2000/02; \$60,000,000-2002/03;

\$76,378,223-2003/04; and \$60,000,000-2006/07. Indeed, between 1998 and 2008, as the student population doubled government expenditure on The UWI also doubled. Moreover, the Cave Hill Campus has undertaken an extensive quality assurance project leading to physical expansion, new and innovative programmes, aesthetically appropriate classrooms, technical laboratories and student accommodation to meet the standards of a world class academy. The modernisation of the Cave Hill Campus to meet the international competitive standards set by CARICOM drew heavily upon government revenues.

This major financial investment in tertiary education has enabled Barbados to make significant advancements in regional and international affairs. A recent UWI survey showed that over 70% of Cave Hill graduates in recent years have found jobs within a year of graduation, and mostly in the private sector. The national private sector has profited tremendously from this public investment.

Samuel Jackman Prescod Polytechnic (SJPP) and the Barbados Community College (BCC) have also expanded their programmes and enrolment as a result of the growth in public investment. SJPP was officially opened in January 1970 with a mandate to develop skills in occupational competencies up to the level of skilled craftsmen. It now offers an attractive range of technical and vocational courses.

By May 1982, the upgraded institution was opened at its present site, and since then has expanded its programme offerings in both full- time courses and part-time evening courses. In keeping pace with developments in the virtual arena of online study, the Open and Flexible Learning Centre (OFLC) of the SJPP was created. Course offerings include such areas as Business Law; Small Business Management, Child Care and Nursery Management, Care of the Older Adult, and Electrical Installation. Students attending the day courses contribute a nominal fee for registration and other related fees, as well as participants in the evening and OFL courses. The public expenditure necessary to provide technical education at the SJPP has also risen considerably.

The Barbados Community College (BCC) was established to improve training in a wide range of skills at the technical, para-professional, middle-management and pre-university levels. The courses of study are of two years' duration. In addition to its day courses the College offers a wide range of evening and summer courses as part of its service to the community. From 1999, the Associate Degree in Arts or Applied Arts, Sciences or Applied Sciences was introduced. In addition, the Hotel School which was a sub-unit of the BCC was officially opened as the PomMarine Hospitality Institute in February 1997 at its present site in Hastings, Christ Church.

By 1986, the Tercentenary School of Nursing of the Ministry of Health was transferred to the Division of Health Sciences of the Barbados Community College (BCC). It offers all of the component disciplines for the three year programme in basic nursing education leading to the Registered Nursing Certificate. This department also offers a one year post basic programme in midwifery for graduate nurses leading to the Registered Midwife Certificate; an 18-21 month programme for psychiatric trained nurses who may wish to become registered nurses; and an 18 month programme for registered nurses who may wish to qualify as graduate nurses.

Specialised training such as that offered at Erdiston, SJPP, the BCC and the Hotel School, are all part of the continuing focus on the professional development and training services which Barbados has had to provide to build its modern infrastructure as a globally competitive economy. These investments in human capital have been substantial, but the returns as measured in national, social and economic developments have been spectacular. Barbados today is celebrated globally as a best practice in educational investment.

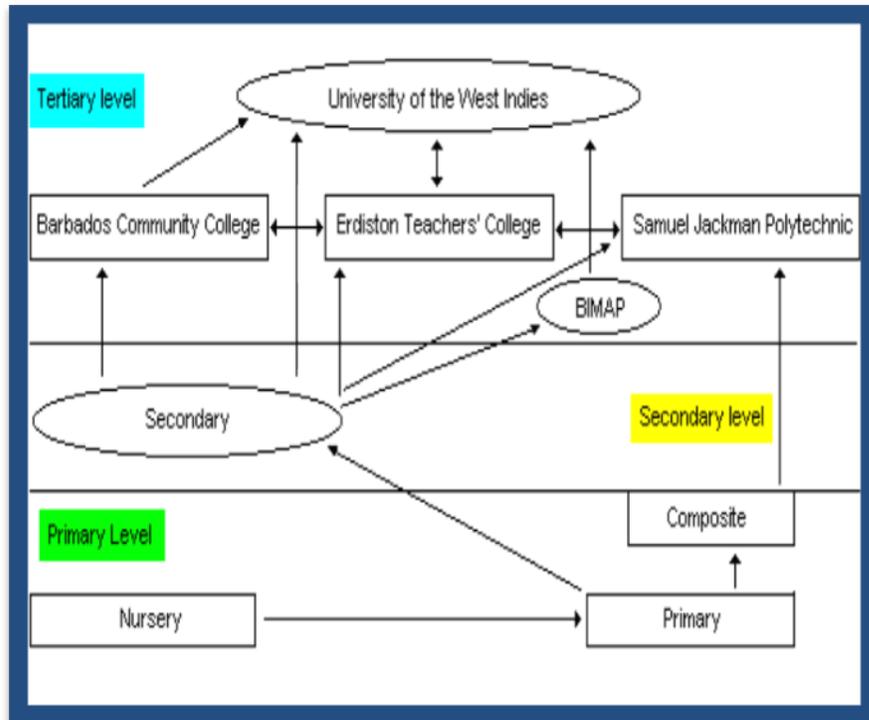


Figure. 1: Position of Tertiary Level Institutions

Figure 1 is a graphical representation of the education system in Barbados. It shows the relationship of the tertiary sector to the overall system, and the primary place of the regional University of the West Indies.

The financial provision for the tertiary sector has been a cost intensive undertaking. Between 1977/78 and 1982/83, public expenditure in the sector rose from \$75.4m to \$117.0m. Additional funds were made available for National Development Scholarships which were re-introduced in order to provide training in priority areas. The University of the West Indies dominates resources allocation for the tertiary sector. Government has pledged its continued funding support to The UWI.

Today, as the country grapples with the deepening economic recession in its new and traditional trade markets, the costs of fully funding education from the primary to the tertiary levels has generated considerable media discussions. There has been a call for the introduction of funding constraints by elements within the discourse. The question being

asked is: Can the Government of Barbados continue to support a fully funded public tertiary education system? This report argues that with minor modification of the funding model it can and should maintain commitment to the broad principles.

Towards A Synergistic Tertiary Sector

Over time, and in response to the need for appropriate post-secondary training, tertiary education in Barbados came to be dependent almost exclusively upon Government. Since 2007, economic instability at home and abroad has produced fiscal challenges that threaten the level of funding available to the sector. Quality and sustainability have become priority issues. Government now seeks to look critically at the new dynamics impacting the sector, and synergies which can sustain its achievements.

Education models are generally flexible enough to be changed according to current needs. Flexibility reduces costs and increases efficiency. Flexibility should open avenues for students to take some responsibility for self funding. Systems for individuals to fund part of their own knowledge and skill acquisition should always be in place.

Flexibility should be considered in the methods of discontinuation and resumption of programmes. These are cost sensitive issues. Although the continuity of study is integral to the holistic nature of teaching and learning, nullification of a student's programme of study, on the grounds that the student discontinued studying for a period of time, should be reviewed.

New methods of instruction should add to flexibility in the delivery of tertiary education. In this instance, distance teaching and learning would allow more students the opportunity to work and study with greater ease than is presently possible. Internet streaming of lectures is a strategy that could also add to the flexibility of access to tertiary education; the ease with such lectures could be repeated at times more convenient to working students would certainly underscore the imperative of flexibility.

The modalities of financing tertiary education are of concern to all stakeholders. Funding models whether they are supported solely by government, partly by the student, or by a combination of both, should be contextualised and considered country specific. Measuring costs should include the rounded development of its participants through an experience that encompasses curricular, co-curricular and extra-curricular learning activities. While students should be furnished with relevant knowledge and skills, they should also be given the opportunities to develop appropriate attitudes and aptitudes. These components of the

learning process create the foundation for the attainment of self-reliance, the growth of entrepreneurship and innovation, and other value systems necessary to nation building.

Cost issues are also relevant to the mix of programmes offered, and suggest an audit of teaching strategies and methods. The efforts of encouraging students to engage in their own learning through discussion, group work and other interactive methods, which are currently in place, should be reviewed. In addition, areas of study which relate to testing, marking and grading should be further modernised through the use of technology. For example, the arrangement of electronic tests would certainly provide immediate feedback to students and also limit the time consuming task of manually marking scripts. Further consideration could be given to the wider utilization of the varied methods of testing so as to maximize the scope of all students performing at their best. Presently, the system allows for pockets of continuous assessment as realized in class participation, attendance, team work, extra-curricular activities and other components which are very relevant to life and the working environment. These components should be made permanent fixtures in the criteria for arriving at a final grade for any course of study.

The case for remediation at the tertiary level ought to be further considered. Knowledge deficits, particularly in language, both oral and written, are constant hindrances to learning. It is obvious that such barriers at the tertiary level should be addressed aggressively. Deeper dialogue between the various levels of education is necessary in order to eliminate these deficiencies.

The processes of institutional and programme articulation are integral to the quality discourse. Closely associated with this process is the need for scientific research that shows student and institutional performance. The collection, analysis and standardization of data are of paramount importance. Systematic and accurate records should be kept; these records should also include an assessment of attrition levels. Such records are necessary to determine cost-benefits and economic efficiency in the sector.

There is urgent need for stronger synergy among the tertiary institutions as a cost reduction initiative. For example, inter-institutional matriculation and articulation should be harmonised, and financing provision and planning integrated. In order to eliminate

repetition of programme content, institutions should decide, based on resources and logistics, which one is best suited to make offers, and to what level. High levels of effective cooperation, communication, and dialogue within the sector are necessary prerequisites for attaining cost efficiency. **A National Commission on Tertiary Education should be established to provide oversight for this process.**

Benefits of the Education System to Barbados

Barbados has joined the ranks of the world's "developed" nations in terms of providing its people with quality living. It is the only country in the Caribbean and Latin America to have earned that status ranking. (See Figure 2). The Human Development Index (HDI) measures performances in health, education, income, and other quality of life indices. Based on the HDI, Barbados, which has been called the "Singapore of the Caribbean," joins such countries as Israel, Hong Kong, Singapore, Slovenia, Cyprus, Malta, Lichtenstein, Bahrain, Qatar, Andorra, San Marino, Brunei Darussalam, Monaco, United Arab Emirates, and Estonia on the list of "developed" countries. Tertiary education providers take pride in this achievement, and promote their provision within this context. The case for the sector can hardly be better made. The 'Barbados model' is globally recognized.

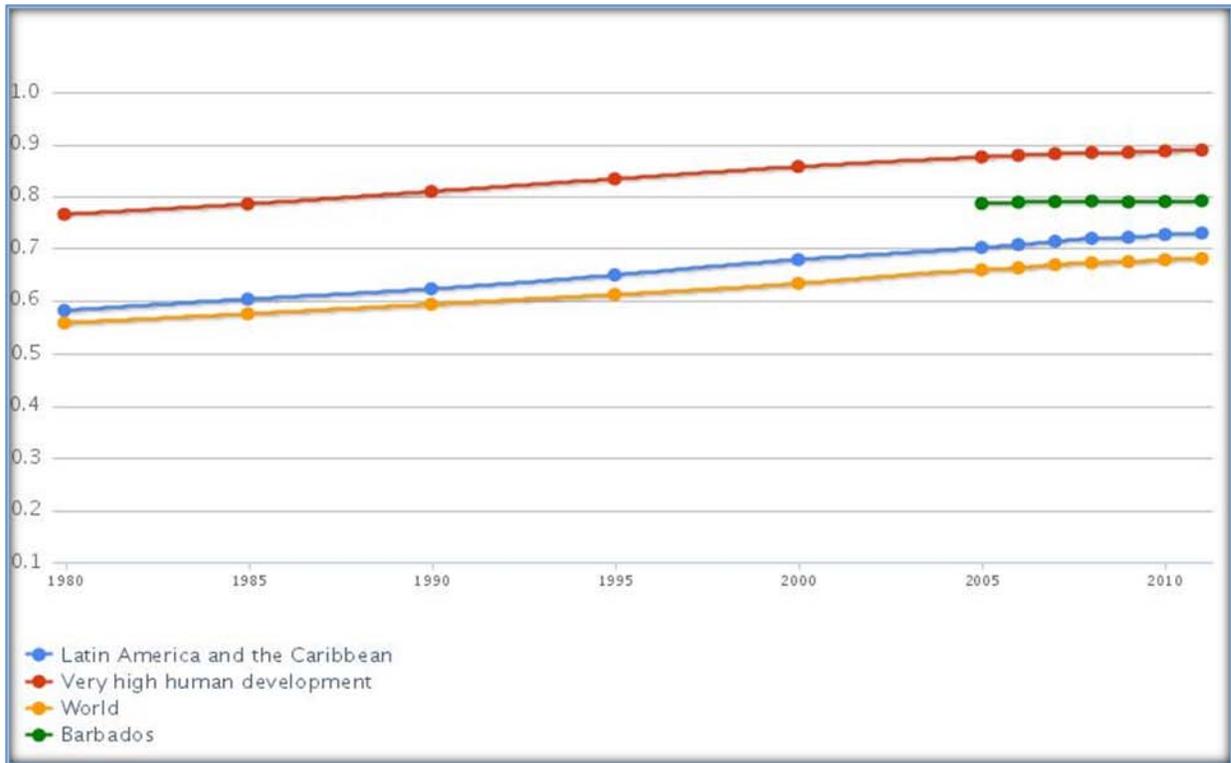


Figure 2- UNDP Human Index rating for Barbados 2010

Education attainment data from the Barbados Census Report 2000 indicate the policy success of popular educational access and training. With the exception of a very small number of heads of households in the country, most had received significant exposure to formal education. Table 1 shows that more than one half of all heads (53 per cent) had attained secondary level education. Among the heads, more women (32 per cent) than men (24 per cent) had attained primary level education as the highest level, and more male heads (23 per cent) than female heads (16 per cent) had attained tertiary level education.

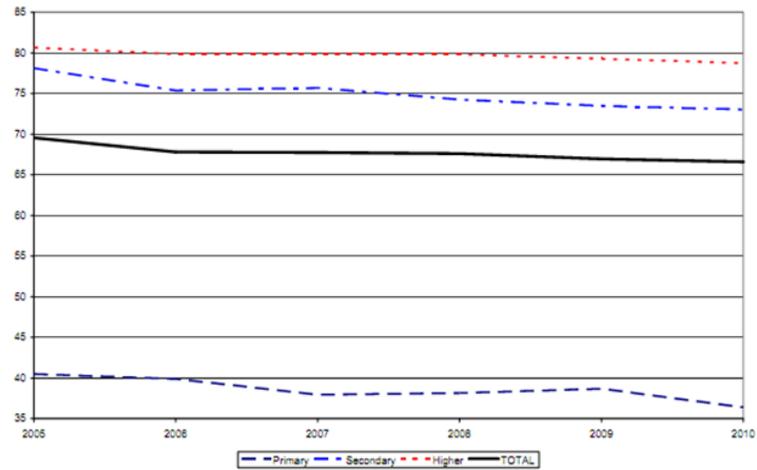
**Table 1. Heads of Households by
Highest Level of Educational Attainment and Sex: Census 2000**

Level of Education	Total	Sex of Head	
		Male	Female
	Number of Persons		
Total	80,267	44,588	35,679
None	204	107	97
Primary	21,941	10,604	11,337
Secondary	42,145	23,711	18,434
Tertiary	15,977	10,166	5,811
	Percent of Total		
Total	100.0	100.0	100.0
None	0.25	0.24	0.27
Primary	27.34	23.78	31.77
Secondary	52.51	53.18	51.67
Tertiary	19.90	22.80	16.29

Labour Market Relevance

The implementation of the Barbados Human Resource Development Strategy demands that the National Strategy be tied closely to the demands of the emerging labour market for the next five years. Employment data reflect the general shift toward higher education in the composition of the labour force (See Figure 3). As shown in Figures 4 and 5 and Table 2, people with only secondary education experience the greatest difficulty in finding a job: their rate of unemployment remains higher than that of people with higher education (Barbados Labour Market Study IDB, 2011). Table 3 provides a picture of the undersupply of skills in the market as it relates to manufacturing and service companies. Persons with tertiary education perform better on the job market, and become less dependent on the state for social services. This is to be expected. Tertiary education empowers the citizens and sets them on the path to economic independence and self-reliance.

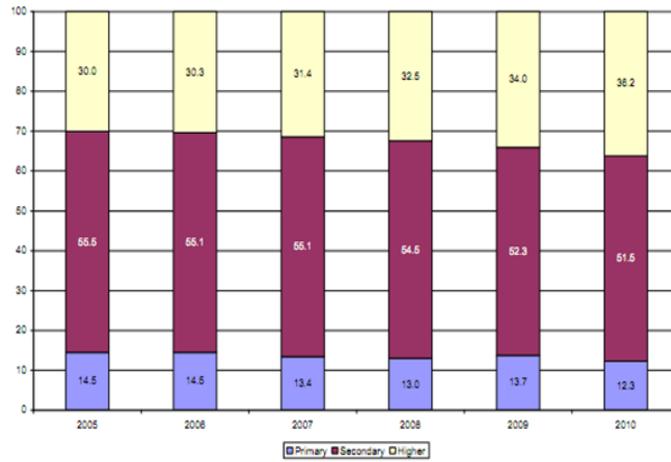
Figure 2.3 Labour Force Participation Rates by Level of Education (% of adult population) – 2005-2010



Source: Own elaboration based on CLFSS data of the BSS

Fig 3 Labour Force Participation Rates

Figure 2.14 Employment by Education (% of total) - 2005-2010



Source: Own elaboration based on CLFSS data of the BSS

Fig 4 Employment by Education

Table 2 Unemployment by Sex and Level of Education

Table 2.4 Unemployment by Sex and Level of Education ('000 persons) – 2005-2010

	Men				Women			
	Primary or none	Secondary	Higher	Total	Primary or none	Secondary	Higher	Total
2005	0.9	6.0	1.0	7.9	0.7	6.0	1.5	8.2
2006	0.8	3.9	1.0	5.6	0.8	4.9	1.1	6.9
2007	0.6	3.2	1.0	4.8	0.8	4.0	1.2	5.9
2008	0.6	3.5	1.1	5.1	0.6	4.5	1.6	6.7
2009	1.0	4.8	1.7	7.4	0.8	4.4	1.7	6.9
2010	1.1	4.9	1.9	7.9	0.6	4.7	2.1	7.4

Source: Own elaboration based on CLFSS data of the BSS

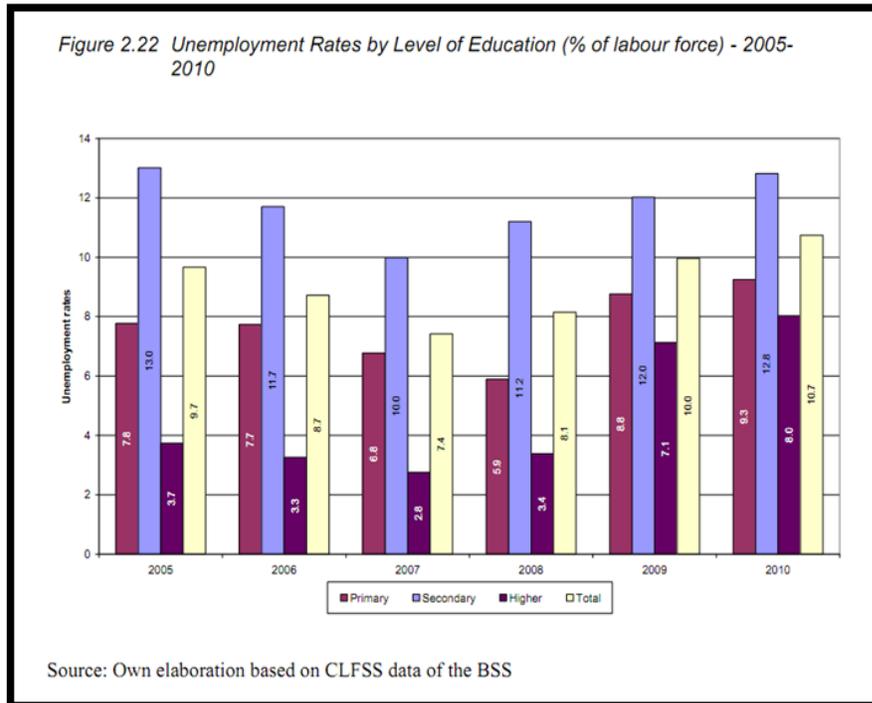


Fig 5 Unemployment Rates by level of Education

Table 3 Undersupply of Skills

Table 4.1 Undersupply of skills in manufacturing and services companies

	Manufacturing	Services
Technical skills and knowledge		
Electricians	√	
Mechanical skills	√	
Operator of plastic bag machine	√	
Sewing Machine Operators	√	
Design and pattern-making	√	
Pressmanship	√	
Draftsmen	√	
Upholsterers	√	
Sprayers, Caners, Carvers	√	
Graphic Arts	√	
Offset Printers	√	
Trained Screen Printer	√	
Mathematics	√	
IT skills, Computer programming; Networking; Computer maintenance		√
Refrigeration and cold storage maintenance		√
Occupational Hygiene		√
General skills		
Problem-solving skills	√	
Communication	√	√
Social skills	√	
Managerial skills/Project management	√	√
Accounting and Human Source management	√	√
Supervisory Training/Technical training	√	
Promotion	√	
Proposal writing		√
Business Analysis		√
Customer service skills	√	
Quality Controls inspection	√	
Multiple skills	√	

Source: BIDC (2011) Report of 2010 Skill Needs Assessment Survey

Overview of the Sector Showing SWOT Analysis



The University of the West Indies, Cave Hill Campus

The University of the West Indies, a regional institution, started in Jamaica in October, 1948 as the University College of the West Indies, in a special relationship with the University of London. It was subsequently granted University status in 1962. In the following year, Colleges of Arts and Sciences were established at St. Augustine in Trinidad and at Cave Hill in Barbados. The Cave Hill Campus began in 1963 as the College of Arts & Sciences in temporary quarters adjacent to the Bridgetown Harbour. In August, 1967, the College moved to its present site at Cave Hill.

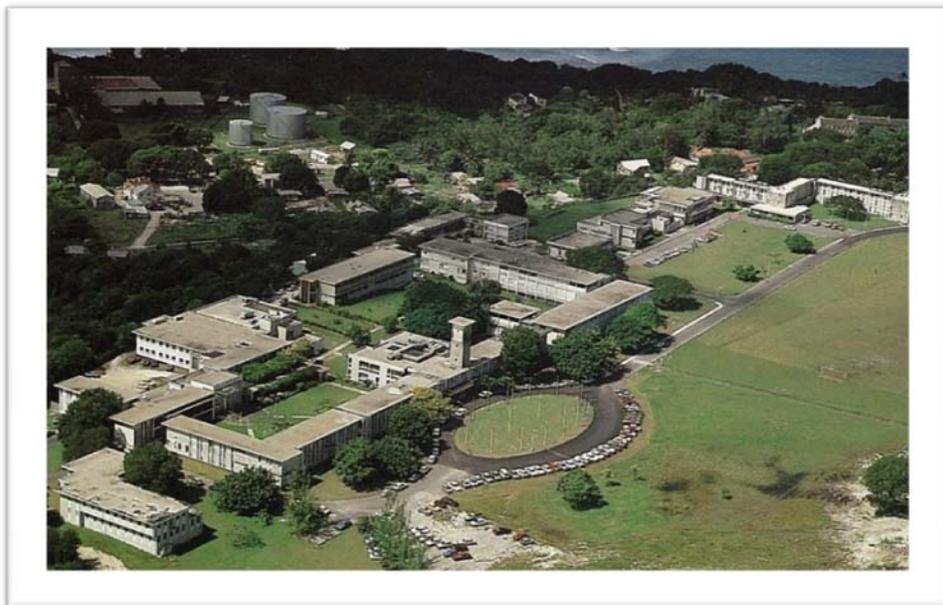


Photo of Cave Hill Campus in late 1960s-1

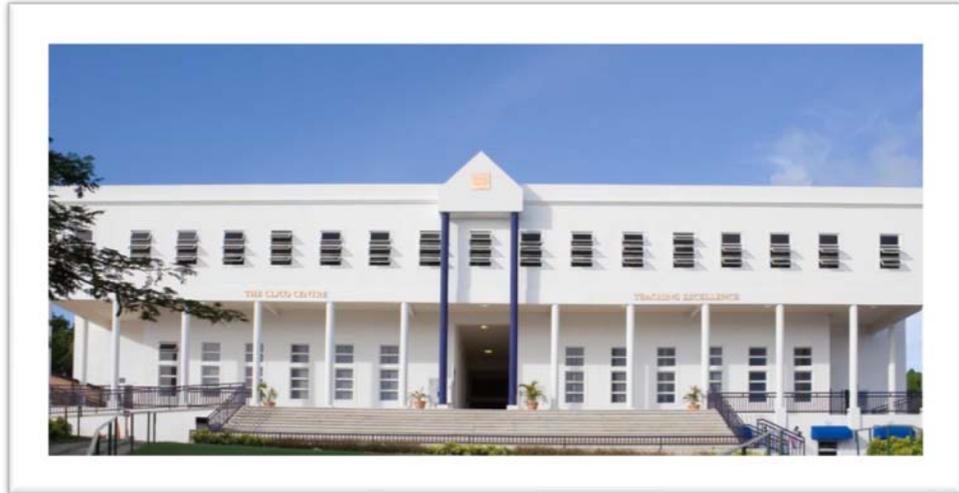
With the establishment of the Faculty of Law in 1970, the name of the College was changed to the Cave Hill Campus of The University of the West Indies. It maintains close relationships with Codrington College (founded 1745) 22.5 km away, and the Caribbean Institute of Meteorology and Hydrology (CIMH). Both are affiliate institutions of The University of the West Indies.

The Cave Hill Campus is currently located on 80 acres of land which The UWI holds on long-term lease from the Government of Barbados. The Campus was originally designed to accommodate about 500 students. In 2012, enrolment stood at just under 9,000.



The Cave Hill Campus showing expansion in 2000s-2

The burgeoning growth of student numbers from the late 1970s placed considerable strain on existing teaching spaces. Many of the lecture theatres were too small to hold classes in excess of 200 students. As a consequence in the 1980s and 2000s, three large teaching complexes were constructed. The order of construction of these spaces was the Roy Marshall Teaching Complex, the CLICO Centre for Teaching Excellence and the SAGICOR Centre for Life Long Learning building. The latter two were provided through the generosity of the corporate entities after whom they were named.



The CLICO Building-3



The SAGICOR Building-4

In addition to spaces for teaching, faculty and administrative accommodation, the campus constructed several other buildings to facilitate its work. A new Computer Centre, for example, serves as the nerve centre for all IT activities on the campus. Additional IT labs are located around the campus, including one which is solely for the use of graduate students.

In 2006, the Errol Barrow Centre for Creative Imagination was constructed. This Creative Arts facility provides academic courses in the Fine and Performing Arts; Dance, film, drama,

and creative writing. To support its programming the complex includes an art gallery, a dance studio, cinematique, and a pedagogic centre. A 250 seat Theatre (which can be converted to an open space) is the centre piece of the complex.



The Errol Barrow Centre for Creative Imagination-5

The campus was chosen by the International Cricket Council as one of four Caribbean venues to host preliminary matches during the 2007 Cricket World Cup Tournament. As a consequence, funds were provided to create an international cricket venue on the campus. The cricket field was re-laid, lights installed to facilitate night matches, the pavilion renovated and a media centre erected. The former warden's residence was converted to house the Sagikor Cricket High Performance Centre, as well as a cricket research library named in honour of the late C.L.R. James.



Cricket Media Centre-6

In 2008, the physical plant of the campus underwent yet another dramatic change when a laboratory and teaching complex was opened to serve the newly upgraded Faculty of Medical Sciences. In addition, existing space on the campus was retrofitted to provide offices for the staff and administrative activities of this faculty.



Faculty of Medical Sciences 2009-7

In 2005 the Government of Barbados recognised the insufficiency of the original 47 acres of land granted, and made available an additional 33 acres of land contiguous to the existing site. The University is in the process of developing this space which already accommodates the School for Graduate Studies Teaching Complex and the new FIFA rated soccer field.

The architectural heritage of the campus was further enhanced with the erection of the new Administration Building which took the shape of a symbol of African culture, the Golden Stool of the Asante people of Ghana. In 2008, the King of Asante, Otumfuo Osei Tutu II, Asantehene, unveiled the Cornerstone Plaque of the building. The entrance to the building carries the Adinkra sign, *Gye Nyame* a symbol that signifies the supremacy of God.



The new Administration Building-8

The Mission

The enduring mission of The University of the West Indies is to propel the economic, social, political and cultural development of West Indian society through teaching, research, innovation, advisory and community services and intellectual leadership.

This mission requires The UWI to:

- provide the population of the region with access to high quality academic programmes that are effectively delivered and that help to build strong individual, national and regional capacities in response to changing human resource needs;
- provide complementary opportunities for higher education that foster intellectual development, creative activity and self-actualisation, enhance social and interpersonal

relations and enable students to have a broader frame of reference for specialized knowledge;

- conduct rigorous basic and applied research that serves to: (i) explore solutions to priority national and regional problems and challenges, (ii) create significant new knowledge, (iii) exploit developmental potential and comparative advantages, (iv) elucidate important contemporary social issues, (v) situate self and society in a changing world order and (vi) provide a sound basis for public policy formulation and decision making;
- maintain a capacity to supply a wide range of expert technical, professional and advisory services to meet the needs of regional governments and the private sector;
- assist its students and the population at large to achieve informed self-awareness through a deep understanding of the main economic, social, political and cultural currents that have combined to define West Indian society;
- help the region to comprehend the nature and significance of contemporary issues and emerging global influences;
- strive to be a significant contributor to global intellectual growth and human development by active scholarship that harnesses the creative energies, cultural diversity, social experiences, biodiversity and other assets of the region;
- assist generally in strengthening education and training systems, at all levels, throughout the region, and aid the development of the tertiary level education system in particular;
- assist the region to evaluate, assimilate, adapt and harness major new technologies in order to optimise potential benefits or limit negative impacts;
- develop strategic alliances with other institutions to expand access to tertiary education, as well as the scope of teaching and research; and

- foster an intellectually stimulating environment that can attract academic staff and students of high quality and in which ideas contend vigorously.

The UWI's Core Values

The University of the West Indies is determined to preserve its core value system, which has been moulded by generations of staff and students.

This value system is characterized by the following strongly-held ideals:

- maintaining a commitment to the pursuit of excellence;
- assisting students to develop a capacity for independent thought and critical analysis;
- stimulating self-awareness and social awareness;
- nurturing a keen sense of individual and social responsibility;
- building respect for cultural diversity and the rule of law;
- promoting Caribbean identity and sovereignty, together with the development and protection of nationhood;
- cultivating multidisciplinary and interdisciplinary collaboration;
- preserving a climate of intellectual freedom;
- engendering in students a commitment to personal growth;
- fostering ethical values, attitudes and approaches; and
- encouraging community service and involvement and dedication to development of the region.

The core strategic focus of The UWI is guided by the following ten strategic aims:

Strategic Aim 1

- To prepare a distinctive UWI graduate for the 21st century—one who has a regional frame of reference and exemplifies the following attributes:
 - a critical and creative thinker
 - a problem solver
 - an effective communicator
 - knowledgeable and informed
 - competent
 - a leader
 - a team player
 - IT skilled and information literate
 - socially and culturally responsive
 - ethical
 - innovative and entrepreneurial
 - a lifelong, self-motivated learner

Strategic Aim 2

- To make The University of the West Indies an internationally recognized centre of excellence for graduate education, especially respected and sought after for:
 - The delivery of first rate graduate programmes
 - Its pre-eminence in Caribbean scholarship
 - Its output of higher degree graduates who are at the cutting edge of contemporary scholarship, clinical skills, professional development and expertise

Strategic Aim 3

- To become internationally recognized as a centre of excellence in research, knowledge creation and innovation on matters related to the Caribbean and small island developing states.

Strategic Aim 4

To create an Open Campus to enable the University to expand the scope, enhance the appeal and improve the efficiency of its service to the individuals, communities and countries which it serves.

Strategic Aim 5

- To develop and establish a people-centred, culture change process
- To institute a quality assurance mechanism to set people-centred standards for the functioning of the University and the service output
- To reform the administrative structures and systems towards implementing and supporting the vision and aspirations of The UWI for the planning period
- To strengthen the structure and processes for University-wide planning

Strategic Aim 6

- To develop and implement a University-wide marketing and communications strategy that is focused on establishing the brand promise of UWI regionally and internationally, as the premier higher education institution in the region
- To enhance The UWI's standing as an internationally recognized centre of excellence for Caribbean Studies broadly defined to include history, culture, literature, economic, social and political dimensions and the natural environment

Strategic Aim 7

- To alter the modalities of funding from contributing governments to provide for greater predictability over the planned period, while allowing for flexibility of the University to respond to agreed changes
- To ensure that the University has access to adequate funding to allow it to make regular investments in the renewal and expansion of capital infrastructure, plant and facilities needed to sustain high-quality teaching and learning, and research at the cutting edge
- To establish mechanisms for funding the planned expansion and enhancement of research activity of the University on a sustainable basis
- To broaden the funding base and reduce overdependence on any one source
- To create conditions that will allow the University to maintain a consistent policy of equitable burden sharing through tuition fees, independent of the policy stance of contributing governments
- To secure adequate funding for the successful implementation of the Open Campus initiative
- To minimize the need for new resources by achieving productivity enhancement and efficiency gains through optimization of the use of existing resources and active management of costs

Strategic Aim 8

- To enhance effectiveness through better internal integration of the institution
- To enhance responsiveness and the impact of the University on regional development through effective dissemination activity and expanded communication links and dialogue with external stakeholders
- To continue to develop links with both tertiary level institutions and the private sectors in order to build human capacity and foster development in the region

Strategic Aim 9

- To increase the University's impact on national policy making, analysis and evaluation, and enhance support for The UWI within the national communities
- To identify and address underserved educational and research needs in each contributing country
- Heighten awareness of The UWI's contributions to national development and the dynamic relationship with regional character

Strategic Aim 10

- To strengthen and expand inter-institutional relationships to support regional development priorities through resource acquisition, capacity building and enhancement of the knowledge-infrastructure

The University of the West Indies (UWI) is a regional university serving the English speaking Caribbean countries of Anguilla, Antigua, Barbados, Belize, Bermuda, Dominica, Grenada, Jamaica, Montserrat, Federation of St. Kitts and Nevis, St. Lucia, St. Vincent, The Bahamas, The British Virgin Islands, The Cayman Islands and Trinidad & Tobago. The University of the West Indies also serves Guyana in the Faculties of Medicine and Law. Apart from its three main campuses in Jamaica, Trinidad & Tobago and Barbados, the University Open Campus maintains centres in the Bahamas and in the participating UWI-12 countries.

Centres/Units/Offices and Affiliated Bodies of the Cave Hill Campus

The University of the West Indies at Cave Hill offers a diversity of academic programmes at both the undergraduate and graduate level. The Campus offers undergraduate and graduate programmes in the Faculties of:

- Humanities and Education, Law, Pure & Applied Sciences, Social Sciences, and Medical Sciences.

Apart from the above, the following Centre Units / Institutes / Offices are attached to the Campus:

- The Sir Arthur Lewis Institute of Social and Economic Studies (SALISES)
- Office of Research
- The Caribbean Agriculture Research and Development Institute (CARDI)
- The Institute of Gender and Development Studies : Nita Barrow Unit
- Shridath Ramphal Centre for International Trade Law, Policy and Services

There are three institutions located in Barbados which are affiliated to the University of the West Indies as follows:

- The Cave Hill School of Business (CHSB): Business School of The University of the West Indies offering Diploma, MBA and DBA degrees.
- Codrington College: A Theological College offering the B.A., L.Th, M.A, M. Phil, and Ph.D. degrees of The University of the West Indies.
- The Caribbean Institute of Meteorology and Hydrology (CIMH): This Institute teaches the Applied Meteorology specialisation of the M.Sc. Natural Resource & Environmental Management degree under an agreement with the Caribbean Meteorology Council. CIMH also offers a Meteorology undergraduate degree.

SWOT Analysis

While under current review in accordance with the revision of the Strategic Plan 2007-2012, the following Strengths, Weaknesses, Opportunities and Threats have been recognised by the campus:

Strengths

- a) The UWI enjoys a special status as a regional institution supported by 15 member countries, with a presence in each of them
- b) The UWI brand has maintained for decades a reputation for high standards
- c) Within the region, the UWI represents a unique concentration of highly qualified staff skilled in a wide range of disciplines
- d) The UWI possesses an unrivalled pool of expertise on matters relating to the Caribbean
- e) The UWI is still the recognized leader in the field of higher education in the region
- f) The stellar achievements of our graduates in leadership positions in many fields regionally and internationally are symbols of institutional excellence
- g) Academic staff of The UWI has generated a significant body of intellectual output over the years
- h) The UWI is a highly respected port of call for advice for CARICOM governments and the University serves as a source of research and expert services to many successful enterprises in the region
- i) The UWI boasts lovely campus settings
- j) The UWI degree is recognized as a standard of excellence and The UWI is recognized as an institution that meets global performance
- k) Curricular offerings are varied and flexible and technology is well-infused
- l) The UWI is very responsive to national needs and is propelled by relevant research
- m) Improved administrative systems offer excellent service
- n) The outreach to regional and international partners is healthy
- o) Leadership and staff operate in a system which is results and performance based
- p) Student-friendly and student-centred cultures are maintained

Weaknesses

The UWI is challenged to:

- a) Maintain an ability to recruit and retain high quality students and faculty in the face of global competition for talent
- b) Build and expand research capacity in the absence of systematic funding mechanisms
- c) Satisfy the intellectual demands of increasingly diverse student populations
- d) Remain competitive amidst growing numbers of new tertiary institutions, while experiencing instability of funding and heavy dependence on governments.
- e) Continually improve the mechanisms for dissemination of information on research findings, developments within the University and in general much more effective strategies for marketing and internal and external communications
- f) Continue to produce leaders (in the professions, government and the public services, academia, finance, industry, etc.) from an increasingly diverse student population in terms of abilities, prior preparation, aptitudes and interests

Opportunities

The UWI has the ability to:

- a) Create new knowledge and add to the development of our people, country and region.
- b) Provide lifelong learning opportunities and professional education.
- c) Provide research and innovation capacity to develop and impact national and regional systems
- d) Align with the corporate sector, other universities and knowledge networks in areas of research and development.
- e) Use new enabling technologies to serve all of its stakeholders more flexibly and effectively.
- f) Garner funds from alumni by involving and engaging them in University affairs.

Threats

- a) An unhealthy financial situation and uncertainty of diverse funding sources due to the current economic climate
- b) Compromised programmes and output due to inadequate operational resources
- c) Increased competition amidst a diminishing presence in some countries



The Barbados Community College

The Barbados Community College (BCC) is a tertiary education institution established by an Act of Parliament in 1968, which was amended in 1990 to empower the College to grant certificates, diplomas, associate degrees, degrees and other awards to persons who successfully complete courses of study approved by the Board of Management.

By 1969, the BCC was opened at a temporary site at Sherbourne Two Mile Hill, with divisions in Arts, Sciences, Agriculture and Fine Arts. It was established to improve the facilities available to the community for training in a wide range of skills at the technical, para-professional, middle-management and pre-university levels.

In 1975, the College moved to a larger, permanent site at Eyrie, Howells Cross Road. It offers courses in the Divisions of Liberal Arts, Fine Arts, Health Sciences, Commerce, Hospitality Studies, Technology, General and Continuing Education, The Language Centre, the Departments of Computer Studies and Physical Education. In addition, it offers a wide range of evening and summer courses as part of its service to the community. The courses of study are of two years' duration. From 1999, the Associate Degree in Arts or Applied Arts, Sciences or Applied Sciences was introduced.

Mission Statement

The Barbados Community College is a dynamic centre of learning which exists to meet the changing education, training and development needs of the societies that it serves, by providing a range of courses and programmes of study in a learning environment conducive to the intellectual, physical and social development of students and staff, so that they can make a meaningful contribution to their country, region and the wider community.

Organisation

BCC occupies two main campuses and comprises ten academic Divisions, a Physical Education Department, the Library, the Counselling and Placement Centre, and the Administrative section (Offices of the Principal, Deputy Principal, Registrar, Finance Officer, Maintenance Department and Security). Each section makes a major contribution to creating an optimal learning environment for the students of the College and must have adequate support to perform its role effectively. The Divisions of the College are: The Barbados Language Centre, Commerce, Computer Studies, Fine Arts, General and Continuing Education, Health Sciences, the Hospitality Institute, Liberal Arts, Science and Technology. The Industry Services unit is a department in the Division of General and Continuing Education that liaises very closely with industry to ascertain the needs of various sectors of industry and deliver programmes to meet those needs.

The Hospitality Institute is a purpose built facility comprising classrooms, laboratories and a fully operating training hotel (Hotel PomMarine), which is a joint venture between the Government of Barbados and the European Union. It has a small satellite centre located at All Saints in St. Peter. BCC offers a more comprehensive range of programmes than any other tertiary institution in the region. Each academic Division is managed by a Head (referred to as a senior Tutor or Director, as with the case of the Hospitality Institute and the Language Centre). The College offers Bachelor's and Associate Degree programmes in addition to diplomas and certificates. A full listing is shown at Appendix (2).

Support Services

Students and staff are provided with a number of support services that are maintained by various departments.

- The College Library, which is a two floor facility, services all the bachelor's degree, associate degree, diploma and certificate programmes offered by the college, as well as the research needs of the teaching and non-teaching staff.
- The Student Health Clinic, which falls under the Division of Health Sciences, provides basic emergency services to the student population. A nurse is in attendance Monday – Friday from 8:30 a.m. – 6:00 p.m. during the Semester and a doctor visits once per week.
- The Counselling and Placement Centre (CPC) is a learning and resource facility providing individual and group counselling, overseas educational advising, consultative services, outreach programming and job placement.
- The Student Affairs section of the Office of the Registrar is responsible for registering students; providing student records, transcripts, withdrawals, transfers, leave of absence and other functions relating to maintaining accurate student information.
- The Academic Board, under the guidance of the Deputy Principal, and in cooperation with the Curriculum Development Officers, ensures that curriculum standards are maintained.

Partnerships

The College has developed partnerships with a number of universities, including The University of the West Indies, which enable its graduates to transfer to these institutions to complete their bachelor's degrees. The Memorandum of Understanding (MOU) with Johnson and Wales University was renewed and new agreements were reached with Florida Institute of Technology and Okanagan College of British Columbia, Canada.

The College has been hosting nursing students and their instructors of universities from the United States of America (USA) and the United Kingdom (UK) to enable them to take nursing courses and have internship experiences in Barbados. This programme is very popular and more universities are seeking to participate.

The College provides assistance to the Technical and Vocational Education and Training (TVET) Council in Barbados and the Bermuda Training Board in developing and delivering training of trainers' programmes. It also provides technical assistance to the Barbados Accreditation Council and other agencies that require the services of curriculum specialists.

The College works very closely with the Ministry of Health and the Queen Elizabeth Hospital (QEH) to provide training for health care professionals (nurses, pharmacists, medical laboratory technologists, rehabilitation therapists, environmental health inspectors, health information managers). A number of specialized programmes are developed to address health care issues as requested by the Ministry of Health. The Pan American Health Organisation (PAHO) works very closely with the college in developing programmes and conducting workshops.

Membership

The College holds institutional membership in a number of associations and the staff hold individual membership in professional organizations. Some of the associations are:

- Association of Caribbean Tertiary Institutions (ACTI)
- Association of Caribbean Higher Education Administrators (ACHEA)
- Community Colleges for International Development (CCID)
- Fulbright Association of Science and Technology (FAST)
- American Council for the Teaching of Foreign Languages (ACTFL)
- Caribbean Association of Home Economists (CAHE)
- Caribbean Tertiary Level Personnel Association (CTPLA)

Projections

It is expected that the College will upgrade many of its programmes to bachelor's degree programmes. Plans are already in place to upgrade some programmes to bachelor's degree in line with the trend of upgrading the professional qualification for practitioners. These programmes include pharmacy, nursing and medical laboratory technology. The enhancement of these programmes will require that the staff be upgraded to ensure that persons teaching in the programme have at least a master's degree.

The physical infrastructure and the instructional support services across the college will be enhanced to match the improvements in the curriculum to ensure a positive learning environment for all students.

SWOT Analysis

Strengths

- The College offers a wide range of programmes which respond to the employment needs of most of the economic sectors of Barbados.
- The highly qualified staff of the College have demonstrated a high degree of commitment and dedication to their tasks, and are eager to contribute to the further development of the institution.
- In spite of a limited marketing and promotion functions, the College has earned a high degree of respect in the community as a significant contributor to the economic and cultural development of Barbados.
- The College is well known for the quality of its programmes, and employers are very satisfied with the employable skills of the graduates.
- College graduates have made effective transition to other institutions.
- The demands for its programmes have increased dramatically.

Weaknesses

- The College lacks adequate resources for upgrading the professional skills of academic and administrative staff to meet future learning and technological requirements.
- The morale of staff is low. There are four perceived reasons:
 - 1) heavy workload;
 - 2) coping with limitations of human and financial resources;
 - 3) perceived discrepancies in the Conditions of Service as they relate to a tertiary level institution; and
 - 4) the deterioration of the physical infrastructure.
- The span of control of the Principal is too wide and dysfunctional. With direct responsibilities for the Deputy Principal, senior tutors, and the administrative staff, the principal, is too involved in day to day routine, operational issues with not enough time to focus upon leadership and policy issues.
- The operational responsibilities for Continuing Education are too fragmented; this results in duplication of effort and lack of a coordinated College response to the unique needs of the adult learners.
- There is perception that departmental leadership is based upon individual initiative rather than within an accountability framework based upon clearly defined outcome based results, and agreed upon expectations for providing quality programmes and services to students.
- The College lacks an organized approach to planning, marketing and research.
- There is still a wide perception that the College is a secondary school.
- Because of the increasing demands for its programmes and services, the College has reached the limits of its physical capacity and staff capabilities.
- There is a perception that the College needs greater autonomy, especially the management of its financial allocations.
- The College has a very centralised administrative system with a great degree of government control.

Opportunities

- There are strong workforce demands resulting from existing and emerging employment sectors:
 - 1) Information Technology
 - 2) Financial Services
 - 3) Hospitality

- There is an increased need to respond to life-long learning needs of workers.
- There are emerging education and training needs resulting from the changing structure of the labour force, shifts in the structure of the economy, and technological changes.
- There is an increased need to strengthen the College's strategic alliances with business and industry to improve access to private sector resources, technology staff and facility.
- To ensure that the educational system adequately serves the range of diverse learners, there is an increased need for improved articulation with SJPP, Erdiston, UWI, and the secondary schools.
- The expanding application of technology to manufacturing processes will result in the need for skilled technicians and technologists.
- In response to the need for highly specialized skilled workers for emerging employment sectors, there are opportunities for the College to develop applied degrees and other programmes in areas that do not duplicate what is offered at UWI.
- Institutions like BIDC and *BTA* should incorporate within their marketing strategies the programmes and services offered at the College.
- To expand its accessibility mandate, the College should use available technology, and modify its curriculum delivery format.

Threats

- Financial constraints may limit the College's ability to keep up with the quick pace of technological advances.
- As the demands for lifelong learning expand, there will be increasing competition from private sector trainers.
- The inability of the College to be responsive to the emerging future skilled requirements may result in skill gaps within certain sectors, and the hiring of offshore staff.
- Because of financial constraints, there will be limited resources for professional development, and the enhancement of physical infrastructure, and the hiring of new staff.
- The quality of the College staff may be compromised because of its inability to attract highly skilled staff within the anomalies of the current Conditions of Service.
- The changing demands and the needs of students will require the strengthening of the Student Services infrastructure.



The Samuel Jackman Prescod Polytechnic

The Samuel Jackman Prescod Polytechnic (SJPP) was established in 1969 as a department under the Ministry of Education. It was officially opened as an institution in January of 1970. Craft level training which had been offered at the Barbados Technical Institute since 1953 was re-organised and expanded in scope within this new institution. Its objectives were to develop trade skills in occupational competencies up to the level of skilled craftsmen as well as to prepare students for entry into the Division of Technology of the Barbados Community College. The House Craft Centre became a division of the Polytechnic, and was incorporated into the institution as the Division of Human Ecology.

In 1972, the Barbados Technical Institute was merged with the Polytechnic which operated branches at Richmond and Grazettes Industrial Park. In 1975, there was a further extension of the Polytechnic when the Division of Agriculture was established at Eckstein Village. Later, in the year the main branch of the Polytechnic was removed from the Harbour and re-sited at "Melbourne", Belmont Road in order to make room for the Harbour expansion.

During this period, technical and vocational training experienced changes following the building of the new Polytechnic at Wildey on eleven (11) acres of land. The facilities at the House Craft Centre, Bay Street had become inadequate to serve the needs of students and to service the new programmes in Home Economics. On May 26, 1982, when the new Polytechnic was opened, expanded programmes offering full- time courses in Home

Economics, Clothing Craft, Cosmetology, Industrial Sewing Machines and Garment Making formed the Division of Human Ecology. By the mid 1990s, students at the Polytechnic were formally exposed to motor mechanics technology with the opening of the Autotronics Laboratory.

Apart from its own programmes, the Polytechnic also provides training for the Barbados Vocational Training Board, students of secondary schools, industrial workers and teachers of our schools.

The courses of training at the Polytechnic are offered either on a full-time, part-time or evening basis, and may lead to either local certification or qualifications of the City and Guilds of London Institute or Caribbean Examinations Council (CXC).

In keeping pace with developments in the virtual arena of online study, the Open and Flexible Learning Centre (OFLC) of the SJPP was created. Course offerings include such areas as Business Law; Small Business Management; Child Care and Nursery Management; Care of the Older Adult; and Electrical Installation.

The Polytechnic is a Technical Vocational Education and Training Institution whose mission is to be the regional leader in the preparation of a highly trained workforce by providing qualified persons with quality competence based Technical Vocational training that responds to the future employment needs of its students. The institution fosters an atmosphere where individuals are stimulated to further their intellectual, social and personal development in order that they may become productive and effective citizens.

The curriculum is developed in order to enable students to build and develop their careers, pursue further educational goals and contribute as citizens and workers to the social and economic life of Barbados. The Polytechnic is a post-secondary tertiary level institution catering to persons 16 years and over. Its programmes have been designed to provide:

- i. Pre-service education and training for those persons who have not yet entered the labour market;
- ii. In-service education and training for those persons who are in the labour market and who are seeking to improve their skills;
- iii. Retraining for those who are already employed.

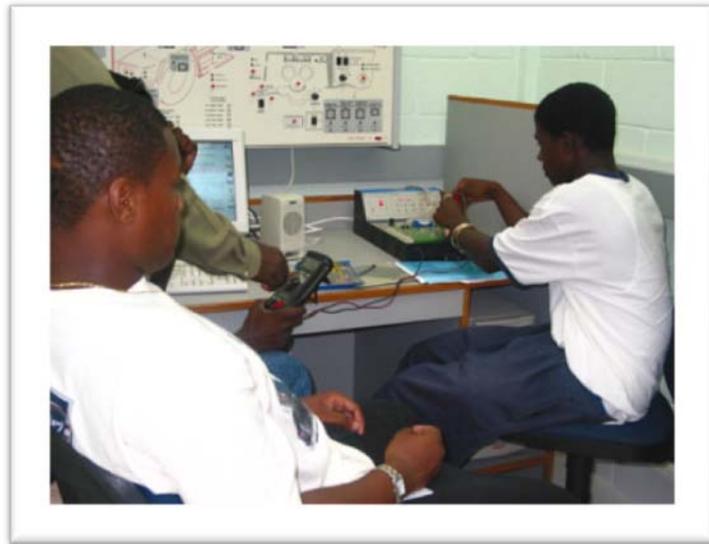
The Institution is currently operating at its design capacity with enrolment in excess of three thousand students. This enrolment number includes an average of some twenty-five students mainly from OECS territory on an annual basis.

Training is delivered by face to face instruction in the Full-time and Continuing Education programmes. Students are able to write examinations for both national and foreign certification. The institution implemented an Open & Flexible Learning programme (an adaptation of the Distance & Continuing learning modality) in 2003 where self-paced paper base study and online learning programmes were developed as a means of increasing access to more students. The institution is now developing its blended learning capability.

The Polytechnic has developed a very strong partnership with employers in the business and industrial sectors whereby students are now able to benefit from the period of work experience (4-6 weeks) prior to graduation. This component of its training programme enhances the chances of students' success and further improves their chances of gaining permanent employment upon completion of their training. Employers indicate a high degree of satisfaction with its graduates. Generally, students perceive the training to be highly relevant and place a high premium on its status as a Technical and Vocational Education and Training (TVET) Institution.

The Polytechnic has an active customer training programme through which short term intensive tailor-made courses are delivered to public and private sector employees in the workforce to upgrade their skills. In addition, theoretical training is delivered to students from the Barbados Vocational Training Board on an annual basis, as a major part of their apprenticeship programme.

The Polytechnic accounts for approximately 30 percent of the total enrolment in tertiary level institutions in Barbados. Although male students outnumber female students, there has been a significant increase in the percentage of female students enrolled at the institution. In 1984, 79 percent of the students were male while in 2003 the male enrolment rate was 54 percent. At present this balance is maintained with approximately 55 percent male and 45 percent female students enrolled.



Students at work at the SJPP-9

SWOT Analysis

Strengths

- Delivers trade skills and occupational competence.
- A wide varied and flexible curriculum.
- Has a highly skilled and trained instructional staff.
- Good gender balance on enrolment (male/female).
- Graduates recognized by employers in industry.
- Graduates able to access higher education.

- Institution is known regionally.
- Has embraced the use of ICT in the delivery of training.
- Delivers online and blended learning programmes.
- Provides high quality education and training at low cost.

Weaknesses

- Need for modern equipment.
- Need for institutional and programme accreditation
- Inability to recruit technical staff.
- Need to have settled and appointed management staff in established posts.
- Inadequate financial resources to deliver programmes and services.

Opportunities

The SJPP has the opportunity to:

- Improve its image and reputation at regional level.
- Engage in improved public relations programme.
- Retrain staff and upgrade skills and equipment.
- Improve networking/strategic partnerships with other training providers.
- Improve its strategic partnership with The UWI (Cave Hill).
- Form international strategic partnerships.
- Improve partnership with industry and employers.
- Increase resources to promote staff development programmes.
- Expand online programmes.

Threats

- Competition from private providers (online delivery).
- Negative public perception of institution.
- Reduced enrolment in some areas (private providers).
- Some obsolete, outdated equipment impacting on quality of training.



Erdiston Teachers' Training College

Following the Marriot- Mayhew Report of 1932, institutionalised teacher training began in Barbados with the establishment of the Rawle Training Institute which was attached to Codrington College. Erdiston Teachers' Training College opened in 1948 with 32 Barbadian teachers (16 men and 16 women) under the principalship of Mr. A.W. Roberts. The opening of the College followed the discontinuation of teacher training at the Rawle Training Institute. The College offered a one year programme comprising the following compulsory subjects: education, english, mathematics, social studies, religious studies, health, physical education, music, home economics, woodwork, gardening, and visual aids. Art and animal husbandry were optional.

Thursday, 4th November 1948 marked the official opening of the College. Principal, Mr. A.W. Roberts, in delivering his first report said that the aim of the fledging college *'is to provide a body of specially trained men and women who are capable of making the most of every child's abilities, however great or small, and helping children to become men and women who can give of themselves to the community in which they live rather than being a charge upon it.'* He concluded by stating that the country could *'look to the future of Erdiston College with optimism.'*

During 1948-1954, six (6) emergency one-year courses were started at Erdiston College in order to speed up the training programme for teachers already in the service. Principal, Mr. Roberts benefitted from the assistance of Dr. Amoss, Director of Professional Training in the

Department of Education, Toronto, Canada. In 1954, a significant milestone was reached when Erdiston College became a regional teacher training institution. A total of 15 teachers was admitted from Grenada, St Lucia, Montserrat, Dominica, and Tortola in the British Virgin Islands to pursue a two year course of study. It then became a residential teacher training college.

It was also during 1954 that the decision was made to admit Barbadian students and those from the Leeward and Windward islands on an annual basis. It should be noted that there was a concomitant increase in human and physical resources during this period. In 1954 the College established its first- two-year training course, again with the assistance of Dr. Amoss. In that same year on the advice of Major C. Gildon Reed, Director of Education in Barbados, an Advisory Committee for Teacher Training was established.

The records also show that 10 College students attended the Barbados Technical Institute during 1958-59 for training in Geometrical Drawing and Practical Metal work. Additionally, 14 students received training in Geometrical Drawing and Practical Carpentry and Joinery during 1959-1960. This training continued to show the significance of practical courses in teacher education.

The early 1960s was a turning point in the history of the College. Grenada and St Kitts no longer sent students, and the UWI College of Arts and Science opened in Barbados in 1963. Regarding the latter development, the then Principal of Erdiston College, Mr Harold Bayne, opined:

The College has now suffered a severe, if not a knockout blow, by the presence and activities of the U.W.I. College of Arts and Science in Barbados. The College of Arts & Science with its elevated status is now fishing in the same pool from which Erdiston draws its annual replenishments, and fishing with a bait which is infinitely more glorious than anything Erdiston can offer. (Cited in Inniss, 1992, pp. 22-23).

During the 1970s, the College offered pre-service training. This was intended to bridge the gap between the Induction Course and the Two Year In-service Programme. Based on the

existing needs in the educational system, the College implemented the Erdiston-Community College Training Project. This was specifically to address the training needs of teachers at newer secondary schools and the senior departments of all-age schools. This project was short-lived in its original format as teachers found the course of study too onerous.

By 1973, an Advisory Board was established at Erdiston College. Dr Richard Allsopp of The UWI was the first Chairman. One of the early matters to be addressed by the Board was the cost of maintaining the boarding facilities. The facility was eventually closed in July 1982 following reports of damage to the physical plant. By 1986, Erdiston ceased to be a residential institution.

The 1980s and 1990s signalled an era of expansion. One of the highlights of this period was the establishment of the Division of Continuing Education. Its offerings included professional and community-oriented courses. In addition, the College offered a Post Certificate programme during 1987-1991 on a one-year full-time basis. It was also during this period that the College administration recognized the importance of information technology and opened the first computer laboratory in 1989.

The island wide economic recession of the early nineties adversely affected the College. Its administration sought to restructure some of its training programmes. In 1992 that serious consideration was given to closing the College. Two major factors contributed to this circumstance. One was the severity of the prevailing economic climate; and the other related to the notion that the country had an adequate supply of trained teachers, albeit at the primary level.

The government did not pursue the option of closure. Instead, in 1993, the Cabinet announced that the College would be restructured to offer the Certificate in Educational Management and Administration, (Cert.Ed.) and the Diploma in Education (Dip Ed). These programmes were previously offered by The University of the West Indies (Parris, 1999).

The Cert. Ed and Dip. Ed followed on the heels of the Teachers' Advanced Professional Certificate (TAPC) which began in 1993. The TAPC programme sought to prepare teachers to function as resource persons in the schools to which they were attached. Other programmes offered during this period included Values Education, Special Needs Education, Interpersonal Skills, Music, and Art and Craft.

The College held fast to its initial aim, "To provide a body of specially trained men and women who are capable of making the most of every child's abilities. . ." (Handbook, 2000, p. 8). In this regard, in 1996, College administrators commenced the Vocational Teachers' Training Programme in Adult Education for instructors of the Polytechnic. During the same year, the College opened a Resource Centre, primarily to service the needs of schools without technology infrastructure. With the national focus on technology, the College was given the mandate to train teachers, principals, and other school-related personnel regarding the use of information technology in education. Internet facilities were made available to students for a nominal fee.

In 2002, the training for graduate teachers at the primary level commenced at the College. This development was facilitated by the offering of the Diploma in Teaching, a two year part-time programme. The programme was short-lived, and was replaced by the Diploma in Education (Primary) in 2006. This is offered on a one day release basis for one year. In 2003, the two year full-time in-service training programme for non graduate teachers at primary and secondary levels was also replaced. The Associate Degree in Education (ADE) was the replacement. The ADE continues to be offered on a two year full-time basis and like the other training programmes, it is free at the point of delivery.

An induction course was instituted for recruits to the Service and a special professional course was organised for mature unqualified teachers. A post graduate In-Service Diploma in education for secondary teachers commenced at the School of Education, Cave Hill, and a Preliminary In-Service Training Course for teachers of approved private schools also began at Erdiston College.

Throughout the years, there was steady expansion in both the student population and the programmes. A total of 146 (one hundred and forty six) teachers accessed the curriculum in Early Childhood Education, Remedial Education and Physical Education. It was also during this time that the College established a Division of Continuing Education. Professional as well as community oriented courses were offered. To date, this Division continues to function successfully. The College also offered a one-year day release programme in Information Technology for teachers. In 2002/03, it partnered with Mount St. Vincent University of Canada, an institution which specialises in Special Needs Education, to offer Bachelor's and Master's programmes to teachers.

In addition to general teacher education courses, the college co-operates with the Polytechnic and the Barbados Community College to provide certification in Technical and Vocational areas such as Business Education, Industrial Arts and Home Economics. These courses are mainly for teachers at the secondary level. The College still continues to offer a number of post basic and continuing education courses designed to meet the special needs of teachers and the public. Among these are one-year in-service part-time courses in the teaching of Reading and Remedial Education along with one-year full-time courses in Early Childhood Education and Physical Education.

SWOT Analysis

Strengths

- The College has established a reputation for high quality training, and successful programmes, which are recognized locally, regionally and internationally. The programmes incorporate contemporary approaches, including the integration of technology across the curriculum. In addition, the institution offers a Continuing Education programme that keeps teachers and members of the public current in various strategies and issues in education.
- The College has a clear distributive leadership structure that facilitates the monitoring and guidance of staff, the coordination of training programmes and the management of student affairs. Within this framework, the College collaborates with educational

institutions and other strategic stakeholders. It is, therefore, responsive to current and emerging professional needs within the education system.

- The College is dedicated to the delivery of quality products, services and processes; and the maintenance of high quality standards among its human resources. Student evaluations provide feedback on the content and delivery of College programmes. External tutors from the University of the West Indies observe students on the Teaching Practice Exercise. In addition, the College's examinations are moderated by the University of the West Indies to ensure that the services, or processes provided, meet specific quality requirements. Additionally, the provision of professional development opportunities keeps staff abreast of current issues and practices in their respective disciplines.
- The environs of the College are aesthetically pleasing and conducive to learning. The College's Main Building is of historic significance, since it is one of the few structures of this kind still standing in the island. This building boasts a Jacobean staircase and intricate wood work in the ceiling and on the door panels. The balcony offers a splendid panorama of the College's grounds and an enchanting view of Bridgetown and its environs. The College is adequately served by local transport systems and is located in close proximity to critical social amenities.
- The College has a cadre of qualified faculty members who are committed to the delivery of the College's programmes and the provision of support for schools and the wider community. Some members of faculty have been the recipients of awards in recognition of their contributions to professional organizations. Members of faculty have also contributed to reform efforts through the promotion of collaborative partnerships and technological initiatives. Other staff members support the work of the College with clerical, custodial, technological, and fiscal knowledge. These individuals bring a wide range of talents that allow the College to continually improve the quality of its offerings.
- The College has an excellent journal collection which is an asset to educators generally, and to research students in particular. The book collection in some subject areas is quite extensive. There is also a range of current and relevant teaching

resources such as videos, educational software, and other technologies available to tutors.

Weaknesses/Challenges

- The College's potential and the sustainability of its areas of excellence are hindered by some weaknesses which translate into needs that must be addressed if the College is to fulfil its potential as a premier teacher training institution.
- There are some inadequacies in the College's physical infrastructure. The size of some classrooms is inadequate to accommodate comfortably the large numbers of students in each programme. Overall, the number of classrooms is inadequate. However, since several programmes are conducted on a day-release basis, the challenges arise when several programmes are scheduled for the same time period. Furthermore, there is insufficient office space for faculty, and tutorial rooms. Limited designated areas are earmarked for the students' lounge and recreational facilities. Further developments would enhance quality of programmes and staff development. There are also several derelict buildings on the College's plant which need to be refurbished and integrated to enhance the College's capacity to deliver quality educational programmes. In addition, there is no provision of facilities for persons with disabilities.
- In pursuance of enhancing the College's facilities, it would be useful to establish a research unit with clerical staff to facilitate faculty undertaking research. While the College has equipment for integrating technology in education, it is not permanently mounted in lecture rooms. To accomplish this, there needs to be an increase in the amount of equipment at the College. In addition, the College has no online library service, and there is no media resource specialist to manage the Teachers' Resource Centre.
- The College has several challenges regarding staffing. These include:
 - Challenges recruiting tutors to fill short term appointments as the conditions of service at the College are different from those for qualified teachers

attached to schools. Hence, this type of arrangement may not be attractive to high quality staff

- The College continues to experience difficulty recruiting persons suitably qualified at the Master's level in Mathematics
 - Several members of the College's staff are not appointed to the positions in which they have been acting for several years. These acting appointments should be reviewed and, where possible, made permanent
 - The number of staff in the Bursary is inadequate to service the Smart-Stream system which was recently introduced
 - A librarian should be appointed to manage the operations of the library
 - Library staff is inadequate to facilitate the extension of library hours
- Although the College is small, it must still satisfy all the requirements and administrative duties required of other educational institutions at the tertiary level. There is no Registrar at the College. Hence, with the increase in enrolment, it places an untenable burden on academic staff, who must fulfil several different administrative roles in addition to their teaching responsibilities, and the supervision of teachers on teaching practice. Additionally, the College does not have a Students' Services Department to cater to the needs of the student body.

Opportunities

- Concomitant with the role of the College, there is a need to establish a research agenda for tutors that informs the practices and policies of teacher education. In this regard, the College will seek to collaborate with the Ministry of Education and Human Resource Development in conducting research intended to improve education for all students.
- College programmes and courses will be expanded to meet national needs in the areas of initial teacher training, ongoing professional development for teachers, guidance counsellors, and school administrators; as well as adult education to facilitate lifelong learning for members of the public.

- With the Ministry's mandate to increase access to training at the College, those persons who cannot be released from day-time duty may access courses online and still pursue professional training. Distance education facilities can help the College to provide wider access to its programmes. Distance education can also facilitate inter-college exchanges where courses can be taught jointly by faculty at Erdiston and faculty from other Colleges in different parts of the world. Additionally, faculty can upgrade their knowledge and qualifications, and keep current in their fields through participating in online programmes and courses. The College has to maximize opportunities to collaborate with other reputable teacher training institutions to strengthen academic content of courses for students.
- At the regional level, the College can offer their services, as consultants to address school-based problems. They can also conduct seminars and present papers at education conferences.
- It is the policy of the Government of Barbados to expand the integration of various technologies into the teaching-learning environment. Hence, the College can continue to provide quality training in this regard.
- In an effort to expand its programmes, the College can design initial training programmes and professional development seminars for teachers, guidance counsellors, and school administrators that target specific needs, especially in specialist areas in which teachers are not currently trained.

Threats

- The College is not yet accredited. However, due to its affiliation to the University of the West Indies (The UWI), the major programmes offered by the College are those franchised by The UWI. However, the College is not always satisfied with the structure of those programmes, and efforts to modify them prove to be challenging. The College recognizes the importance of being accredited.

- Remuneration for part-time staff is inadequate. The hourly rates offered to part-time staff are unattractive when compared to the rates offered by other tertiary institutions. In addition, the disparity in the hourly rate for different programmes is untenable.

Presentation, Analysis and Interpretation of Enrolment and Matriculation Trends

Data 2000-2010

The committee was mandated to analyse relevant registration and financial data, in order to determine enrolment and matriculation trends at the four tertiary level institutions. Table 4 shows a breakdown of these findings for a ten year period. Data are recorded for men and women attending these institutions. The SJPP's ability to attract the majority of males throughout its programmes is worthy of note.

Table 4. Ten year enrolment across 4 institutions (1332 Erdiston students are registered at The UWI, See Appendix 3)

Year	BCC		ETTC		SJPP		UWI		ALL	
	M	W	M	W	M	W	M	W	M	W
2000-2001	1232	2512	12	32	1288	1225	1334	2604	3866	6373
2001-2002	1352	2693	16	57	1182	1148	1310	2672	3860	6570
2002-2003	1374	2711	25	85	1236	1521	1436	2927	4071	7244
2003-2004	1239	2590	18	67	1066	1052	1589	3315	3902	6991
2004-2005	1429	2685	18	33	1726	1110	1874	3910	5061	7772
2005-2006	1326	2539	25	43	1524	1248	1948	4266	4848	8191
2006-2007	1402	2886	16	42	1632	1516	2193	4642	5276	9236
2007-2008	1459	3001	17	39	1360	1512	2310	5001	5203	9741
2008-2009	1406	3170	20	35	1648	1239	2495	5286	5616	9917
2009-2010	1391	2797	25	59	1177	1164	2688	5654	5261	9632

Females continue to enrol at all four tertiary institutions in greater numbers than males (see Figures 6, 7, 8 & 9). Over the past 10 years, average enrolment for females stands at 63% of total enrolment of students across all institutions. Student enrolment at SJPP is more evenly represented by both sexes with an average enrolment across the stated time period of 52% males and 48% females.

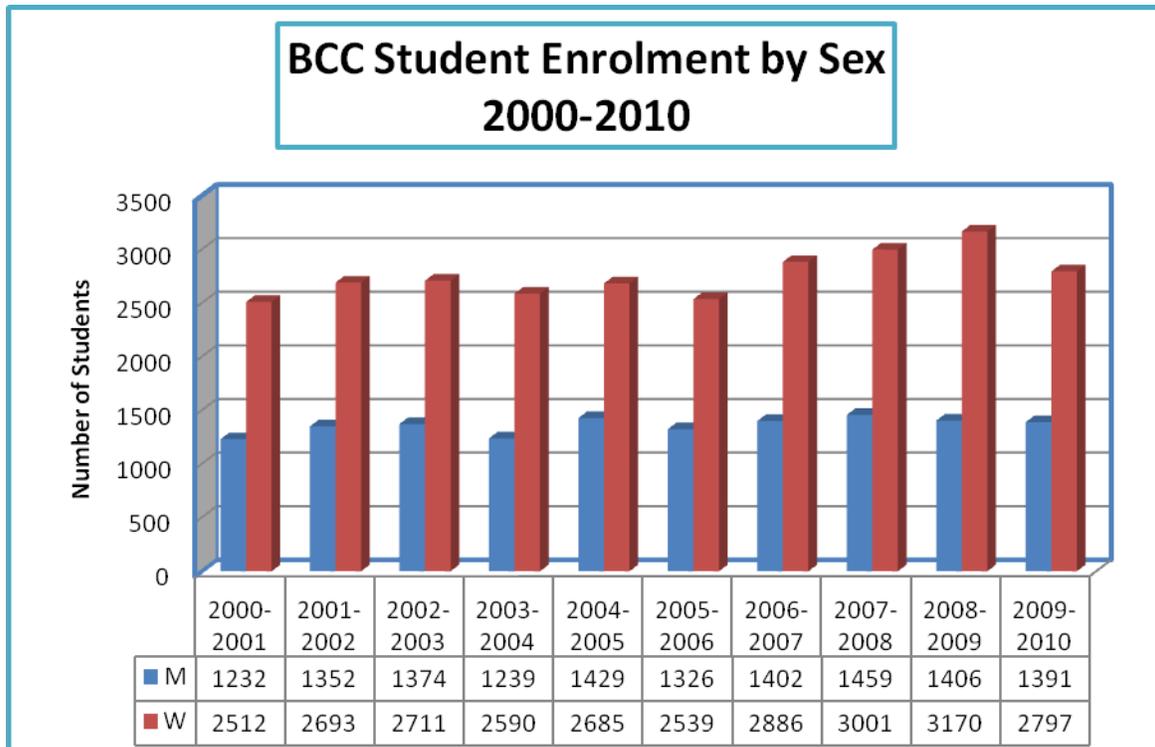


Figure 6. BCC enrolment by sex

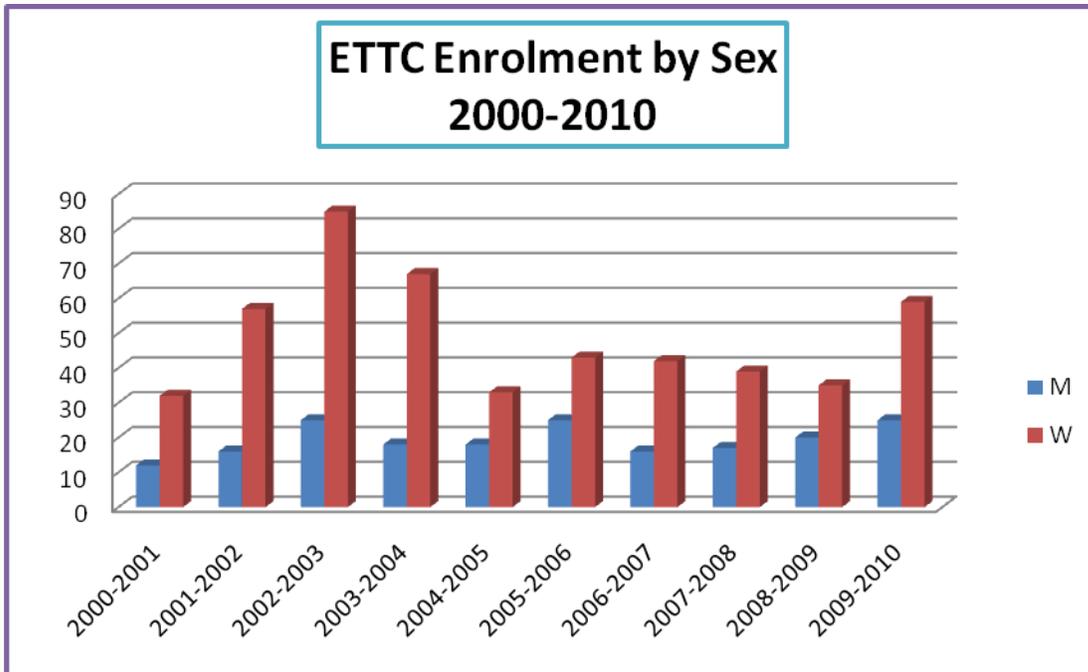


Figure 7. Erdiston enrolment by sex

Figure 8 is a graphical representation of the enrolment at SJPP over the ten year period.

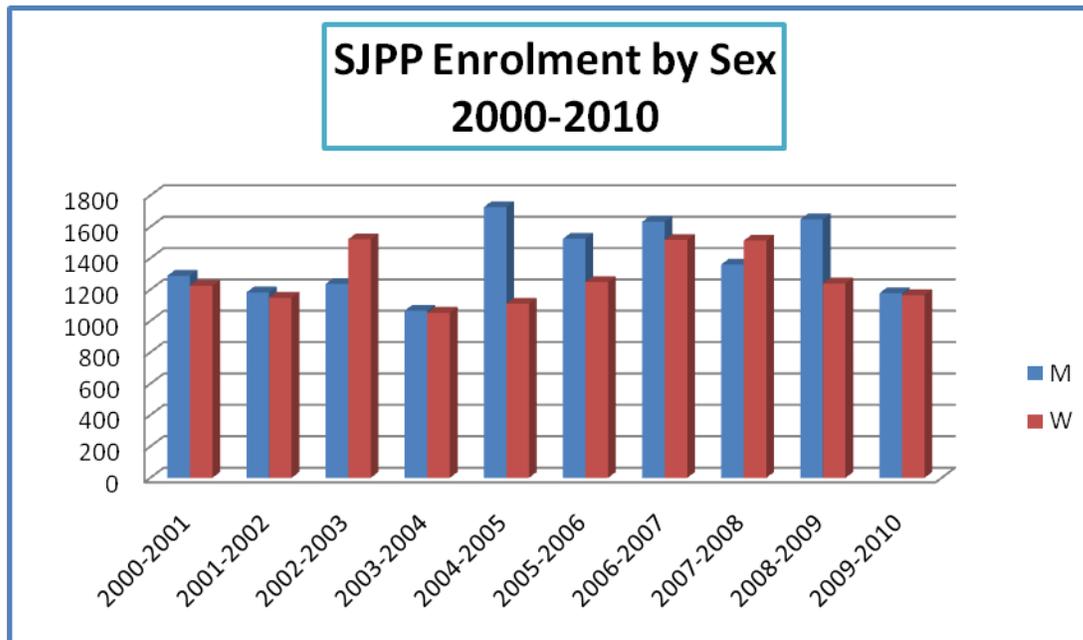


Figure 8. SJPP enrolment by sex

Figure 9 shows strong female enrolment at The UWI over the ten year period. It also reflects the steady upward growth in male and female enrolment over the ten year period.

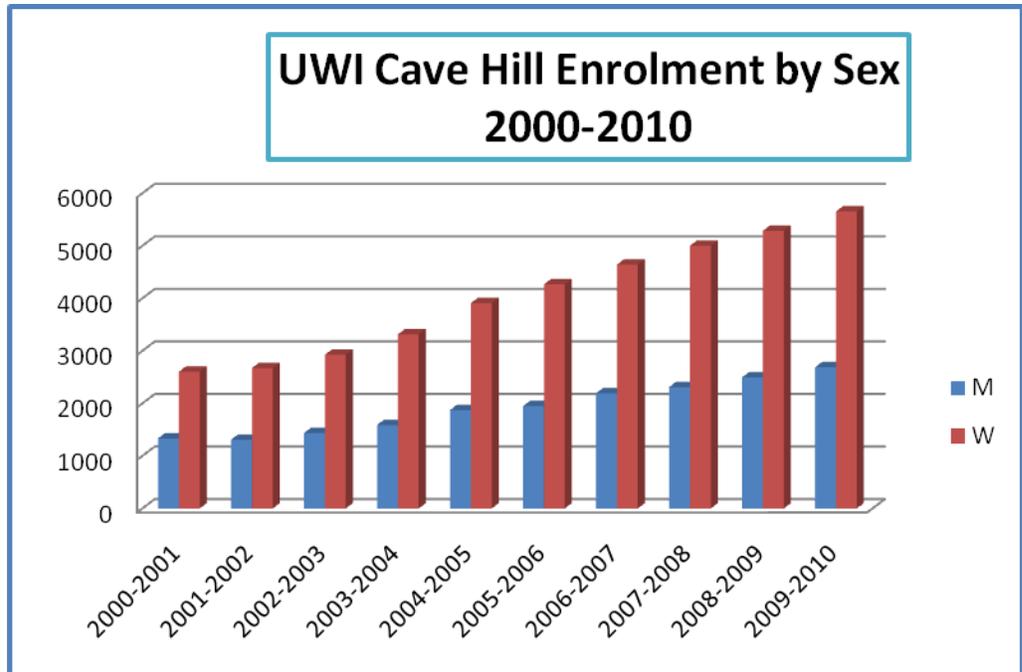


Figure 9. The UWI enrolment by sex

Figure 10 displays the total tertiary enrolment of the four tertiary institutions over the ten year period.

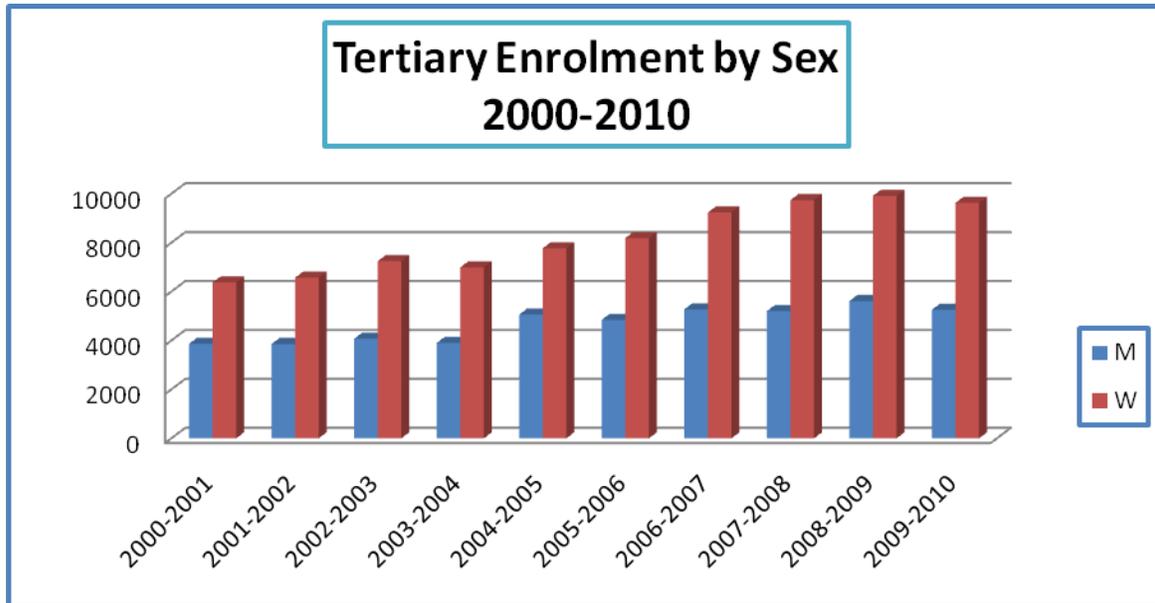


Figure 10. Overall tertiary enrolment

Enrolment doubled at The UWI Cave Hill over the past ten years. In 2000-2001 it stood at 3938 and in 2009-2010 was reported at 8342 representing a growth of 111.83%. Expansion at the other institutions (BCC, ETTC and SJPP) has remained modest in the same time period, with a dip in enrolment during the 2008-2009 academic year. The enrolment dip also took place at all four institutions as illustrated in Figure 11.

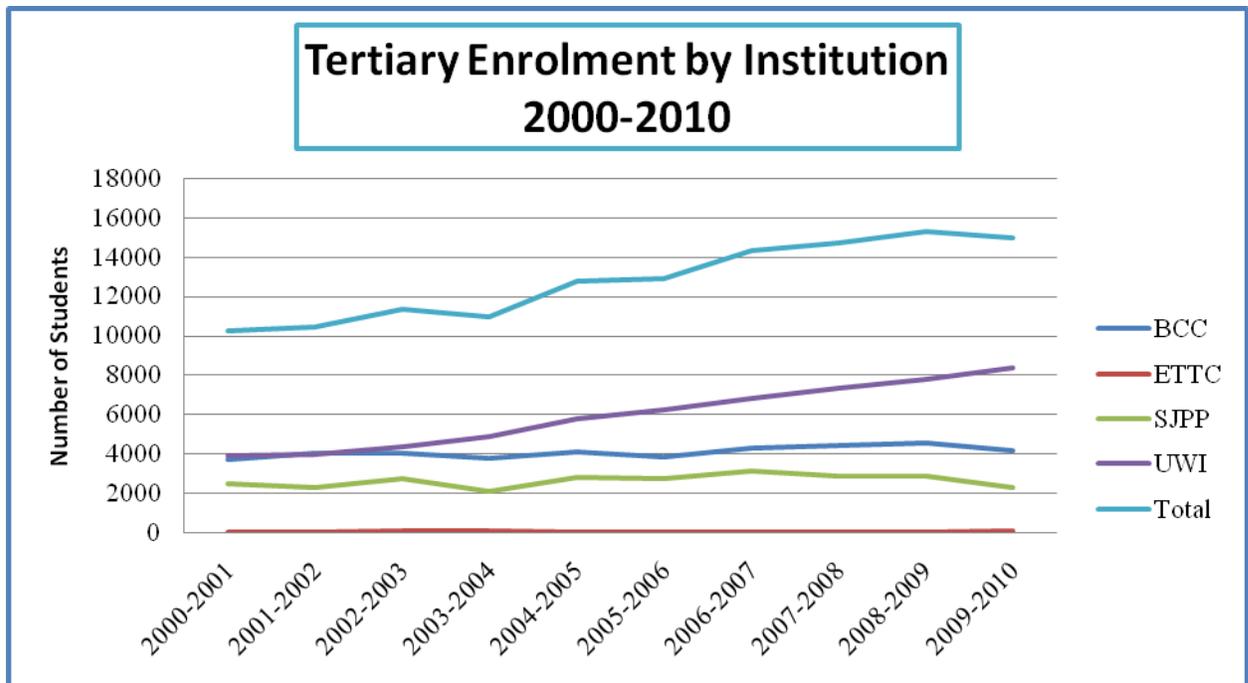


Figure 11 Tertiary enrolments by institution

Table 5 compares the total numbers of students enrolling at each tertiary institution for the ten year period. The student enrolment at Erdiston Teachers' College when compared with the other campuses is quite low. The low numbers are reflective of the fact that students of the Dip Ed., Cert Ed. and Associate Degree programmes are counted among The UWI numbers since these are programmes offered at The UWI for Erdiston Teachers' College.

Table 5. Comparative enrolment numbers (See appendix 3 – 1332 Erdiston students are registered with UWI)

Year	BCC	ETTC	SJPP	UWI	Total
2000-2001	3744	44	2513	3938	10239
2001-2002	4045	73	2330	3982	10430
2002-2003	4085	110	2757	4363	11315
2003-2004	3829	85	2118	4904	10936
2004-2005	4114	51	2836	5784	12785
2005-2006	3865	68	2772	6214	12919
2006-2007	4288	58	3148	6835	14329
2007-2008	4460	56	2872	7311	14699
2008-2009	4576	55	2887	7781	15299
2009-2010	4188	84	2341	8342	14955
Average	4119.4	68.4	2657.4	5945.4	12790.6

Table 6 and Figure 12 show the enrolment figures at The UWI in relation to its yearly output.

Table 6. The UWI enrolment and graduation profiles

Year	UWI Enrolment	UWI Graduates
2000-2001	3938	974
2001-2002	3982	987
2002-2003	4363	1145
2003-2004	4904	1191
2004-2005	5784	1008
2005-2006	6214	1504
2006-2007	6835	1581
2007-2008	7311	1436
2008-2009	7781	1513
2009-2010	8342	1578
Average	5945.4	1291.7

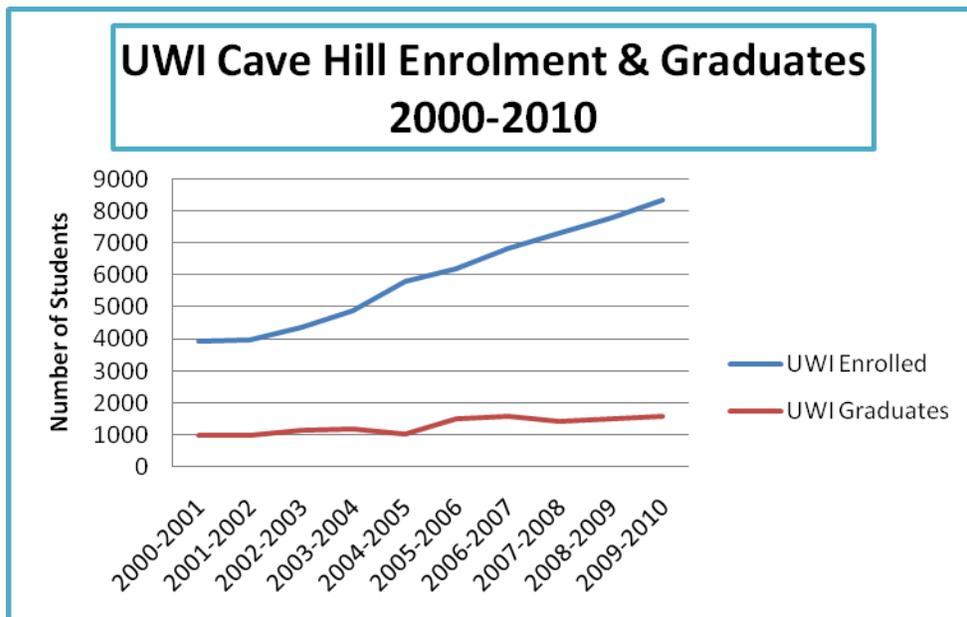


Figure 12. The UWI enrolment and graduation profiles

Graduation from institutions generally mirrors enrolment. While UWI's enrolment climbed 111.83% as noted earlier, graduation numbers did not grow at the same rate. This trend reflects the endemic part time status of the majority of students, and the longer completion period experienced by such students. This trend can also be identified at the other campuses of the university.

Of note, while BCC's graduation mirrors its enrolment numbers, the percentage of students graduating was 14.6% in 2000-2001 compared to 36.6% in 2009-2010. The graduation numbers reported for 2009-2010, however, are skewed as several programmes including continuing education and short term courses that were not previously included in previous academic years are now being accounted from 2009-2010 onwards. BCC average graduation over the 10 year period is 23.03% while The UWI stands at 21.72%. SJPP graduated an average of 64.97% of its students over the 10 year period.

While enrolment at the tertiary institutions remains strong, factors affecting student retention need closer attention, especially at BCC and The UWI, Cave Hill. Table 7 and Figure 13 show the yearly enrolment at Erdiston in relation to its graduation profiles. The programmes administered by The UWI for ETTC are recorded here.

Table 7 Erdiston enrolment and graduation profiles (see appendix 3 for ETTC /UWI graduates)

Year	ETTC Enrolment	ETTC Graduates
2000-2001	44	35
2001-2002	73	16
2002-2003	110	64
2003-2004	85	40
2004-2005	51	27
2005-2006	68	18
2006-2007	58	34
2007-2008	56	17
2008-2009	55	48
2009-2010	84	23
Average	68.4	32.2

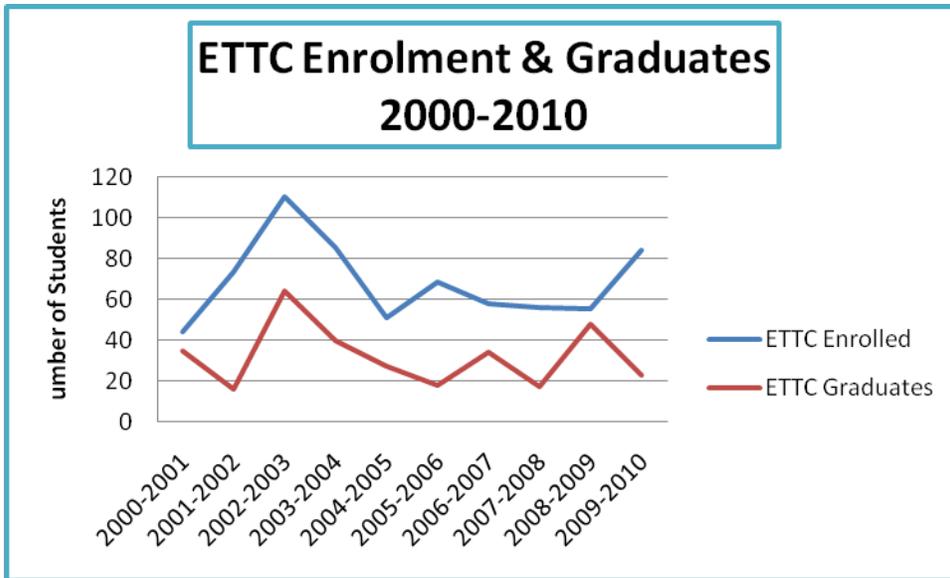


Figure 13 Erdiston enrolment and graduation profiles

Table 8 and Figure 14 show the SJPP’s enrolment and graduation profiles over the ten year period.

Table 8 SJPP enrolment and its graduation profiles

Year	SJPP Enrolled	SJPP Graduates
2000-2001	2513	1758
2001-2002	2330	1565
2002-2003	2757	1666
2003-2004	2118	1413
2004-2005	2035	1323
2005-2006	2129	1336
2006-2007	2231	1487
2007-2008	2382	1574
2008-2009	2162	1273
2009-2010	2341	1549
Average	2299.8	1494.4

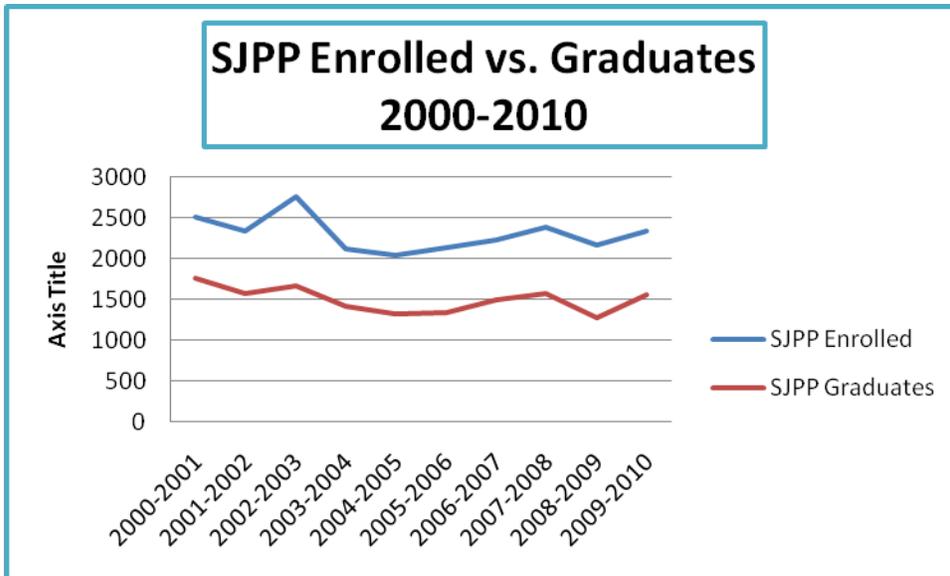


Figure 14. SJPP enrolment and graduation profiles

Table 9 and Figure 15 show the BCC enrolment and graduation profiles.

Table 9 BCC Enrolment and Graduation Profiles

Year	BCC Enrolled	BCC Graduates
2000-2001	3744	549
2001-2002	4045	653
2002-2003	4085	741
2003-2004	3829	666
2004-2005	4114	1039
2005-2006	3865	854
2006-2007	4288	903
2007-2008	4460	952
2008-2009	4576	1599
2009-2010	4188	1535
Average	4119.4	949.1

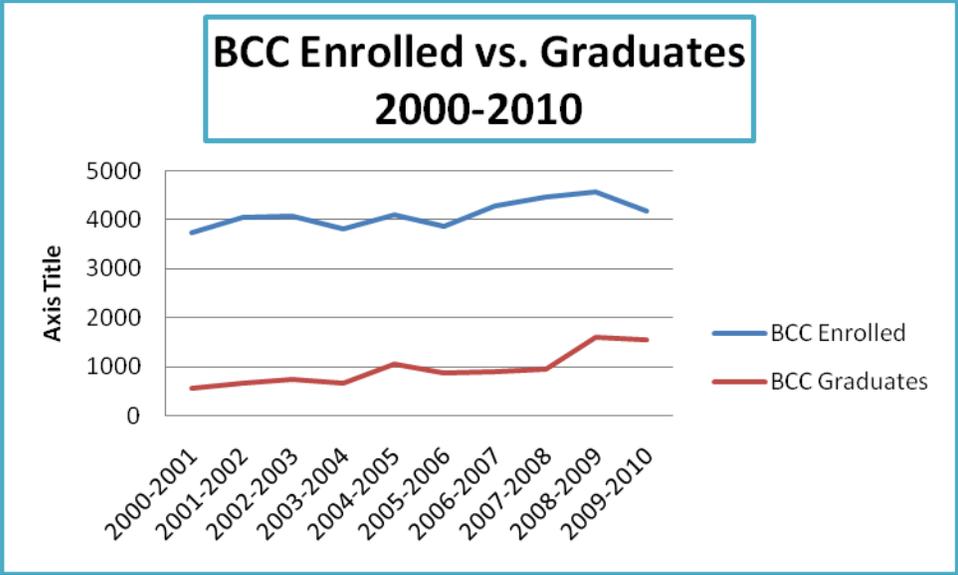


Figure 15 BCC Enrolment and Graduation Profiles

CHALLENGES AND LIMITATIONS

The retrieval of data pertinent to this framework document necessitated the services of a research officer. Due to the inadequacy of the student records system utilised at BCC and SJPP, student data are difficult to extract and analyse. Initially, granular data for each student enrolled were requested including but not limited to drop-outs, date of birth, address, employment information, and income level. The effort was subsequently abandoned as it became apparent that the BCC does not have centralised records of all enrolled students. Students enrolled in continuing education and short courses are not recorded by the Registry but are documented by individual Divisions delivering those particular courses.

As a result, information regarding BCC students is not filed in a centralized database. Data were retrieved from annual reports for the period 2000-2010. The College is hindered by its limited ability to extract data from the back end of its system. Currently, only one person, the Computer Assistant, is able to do so and notably no one from the Student Affairs office.

Similarly, SJPP's ability to extract data from its computer system and official reports is also confined to the expertise of one person. In order to provide the granular data initially requested staff members were faced with the mammoth task of running several different reports and then cutting and pasting from those reports into another document. In the interest of expediency, SJPP data were retrieved from the annual reports submitted to the Ministry of Education.

As at BCC, the SJPP Registrar's office does not serve as the centralized data warehouse for student information. Student information for full-time students is kept in the Student Affairs department while information on Distance and Continuing Education is held within its own Division. This can be problematic as several students are enrolled in both full-time and distance or continuing education programmes leading to the strong possibility of being double counted. The separation of the two is so distinct that they submit their own separate reports to the Ministry. In order to determine grand totals, the two documents had to be merged.

Statistics for The UWI Cave Hill and Erdiston Teachers' College were gathered from their annual reports for the sake of consistency. The use of aggregated data severely limits the ability to identify relationships among factors contributing to student enrolment, drop-outs and trailing patterns. The above mentioned challenges and limitations reinforce the need to establish a networked tertiary education sector with common practices of collecting, recording, storing, retrieving and sharing important data.

Review of Current Structures at Tertiary Institutions:

Student Support, Governance and Administration, Curriculum, Programme Capacity,

Student Access: short, medium, long term, Financing

In furtherance of the reform strategy for tertiary education the four institutions have discussed and analysed their structures in relation to student support, governance and administration, curriculum, programme capacity, student access and financing and have made recommendations for reform in each category.

The University of the West Indies, Cave Hill Campus

The strategic aim of the University of the West Indies in the planning period 2007-2012 is to achieve a fundamental transformation that would enable the institution to respond with great alacrity to the regions' educational and developmental needs and challenges, and to maintain its position as the premier regional university.

Cave Hill consistently reviews its status and achievements, and has made recommendations in the following categories: Student Support, Governance and Administration, Curriculum, Programme Capacity; Expansion of Student Access, and Financing.

1. Student Support

The Cave Hill Campus invests significant resources in the all-round development of students through the Office of Student Services (OSS). The OSS comprises a Director, seven full-time staff of which two persons provide direct services and programme delivery to students, four temporary support staff and one student assistant. There has been an expansion of services over the past five years even as the student roll has climbed from 2000 to in excess of 8000.

The office defines its mission as supporting “the nurturing of intellectual, personal and professional development of students through its programming focus on academic success, lifelong learning, personal responsibility and community involvement.” This mission

supports the core focus of the Strategic Plan 2007- 2012 which seeks to prepare the distinctive UWI graduates for the 21st century.

Through its many student development and empowerment programmes the Office of Student Services works to create a rich campus life, support a high quality learning environment and provide educational programmes that will lead to enlightened citizenship and meaningful personal and professional lives, while preparing students for global citizenship.

Co-curricular Programmes

Among the teaching and learning initiatives administered by the OSS is a programme of co-curricular activities, designed to produce well-rounded graduates, better prepared for their role in society through activities that will promote personal and professional development. Co-curricular programmes are designed to foster a range of skills – interpersonal, creative, leadership, management, social and professional. The current co-curricular offerings include Debating, Leadership with Service, Peer Education in Response to HIV and AIDS and a range of sporting disciplines. New programmes include Chorale Singing, Dance as Civic Expression, use of Photography to Document University Life, Theatre as Civic Expression and Student Entrepreneurial Empowerment Development. (SEED) These programmes allow for collaborative learning to take place among students from multiple disciplines and to broaden their perspective on what it is to be a contributing member of society.

Other developmental programmes offered by the OSS include the *Mentorship* which *links students with mentors in their chosen career fields and allows the avenue for linking classroom theory to practice*; the *Caribbean Internship Project* which facilitates practical experiences in areas including Counselling and Applied Psychology, Education, Social Work, and Social Sciences' research; the *First Year Experience* (FYE) programme, a student-centred initiative targeted specially toward first year students, providing skills for academic success in the context of overall life skills' development; *The Vision and Fortitude* programme, primarily an outreach programme that is designed to increase students' self awareness with respect to holistic values-based development and awareness of/and participation in service initiatives as a means of encouraging civic engagement and

responsible citizenship; and programmes in *Leadership Development* and *Peer Support* empowering students with skills and techniques to serve their fellow students.

Areas for Improvement

Programme Delivery and Staffing

Programme delivery is limited under the present structure and therefore the reach to the wider student body is limited. It is critical that centres of learning for each area of programme delivery be developed and that faculty assist through serving as advisors.

Programme Development

The First Year Experience (FYE) programme is voluntary. In this respect, it is not recognized and integrated into the overall first year student trajectory and therefore does not have an established place within the university as a critical supportive learning resource. It is recommended that FYE become a foundation course, compulsory for all first year students.

With regard to developmental areas such as disabilities' programming and academic skills' support, a more systematic approach to new offerings should be guided by the appropriate institutional consultation. These consultations would include deliberations with respect to the location of services, the structure of the service, physical and human resource allocation and a clearly articulated understanding of policies regarding access and eligibility criteria.

Programme Access

There needs to be a co-curricular period that enhances access to programmes.

Physical Plant

The physical plant for The OSS requires modification. There needs to be a dedicated Student Services Resource Centre that houses student learning activities (therapeutic and psycho educational groups, mock interviews, on-campus interviewing and other employer related activities). Additionally, it would be beneficial to equip such a centre with audio-visuals aids and selected computer based tools that would enhance student learning.

Institutional Buy-In

An institutional culture that values the importance of non-class room experiences needs further enhancement.

Governance and Administration

The Cave Hill Campus has a clearly defined organizational structure that delineates responsibility for the administration of policies. The Offices of the Campus Principal, Deputy Principal which are accountable to the wider University of the West Indies regional governance structure, are supported by a number of offices and units. These include the offices of the Bursary, Registrar and the University Management Audit Department. The UWI Office of Planning and Development (OP&D) plays a major role in the governance and administration of major projects and activities on campus. Across, all campuses, the Office of Planning and Development (OP&D) is the entity responsible for monitoring the implementation of the University Strategic Plans.

There is an office on the Cave Hill Campus that falls directly under the University Vice Chancellery (also referred to as the Centre), as well as offices on the other campuses. The Cave Hill OP&D Office works in accordance with the directive from the Centre to include Cave Hill in activities as they relate to the current University Strategic Plan, 2007-2012. The Campus Office has specific responsibility for working to prepare, administer, collect, collate, analyse and submit Cave Hill related data. The OP&D also conducts other activities such as needs analyses through communication with Departments, Institutes, Centres, Units and Cave Hill School of Business.

A complex management system with appropriate checks and balances is used to manage the resources of the University and its Campuses. These form part of ensuring and enhancing quality throughout the organisation. In keeping with its establishment by Royal Charter, The UWI's management structure mirrors that of a traditional British university.

The principal governance institutions of the institution are the:

- University Senate
- University Council
- University Finance and General Purposes Committee
- Campus Councils
- Campus Finance and General Purposes Committees
- Academic Board

University Senate

The University Senate is the highest decision-making authority in academic matters. Senate controls and governs the general direction of research, instruction, examinations and the awarding of Degrees, Diplomas, Certificates and other distinctions. It reports annually to University Council (Council) through the University Finance and General Purposes Committee (UF&GPC). A significant amount of Senate's responsibility with regard to quality has been delegated to the Board for Undergraduate Studies (BUS) in relation to undergraduate affairs and the Board for Graduate Studies and Research (BGSR) with respect to matters of graduate studies and research.

University Council

The University Council, presided over by the Chancellor, is the supreme governing body. Ultimate institutional power resides in the Council. It is assisted by its Standing Committees – UF&GPC and the University Strategy Committee. One of the responsibilities of Council is to approve and authorize appointments, with consent of Senate.

University Finance and General Purposes Committee

University Finance and General Purposes Committee is a Standing Committee of Council which between meetings of the Council exercises the powers of Council in all matters

connected to the receipt and expenditure of money and in all other matters whatsoever, in respect of which the powers of the Council are not otherwise specifically delegated.

The Office of the Vice Chancellor is charged with the authority to manage the human, financial and physical resources of the University. The responsibilities of the Leadership Management Group of each Campus (which includes the Principal, Deputy Principal, Campus Registrar, Campus Bursar, Dean, Guild Presidents, and other senior officials) include providing advice to the Vice Chancellor on strategic and policy direction in this regard, as well as co-coordinating action to implement the University's Strategic Plan.

Campus Council

Each of the four campuses of The UWI has a Campus Council. Membership of these Councils is as follows: A Chair, the Vice Chancellor, the Campus Principal, Deputy Campus Principal, Campus Registrar, other selected University officials and representatives of Campus stakeholders including government representatives and the alumni. Campus Council is the chief management body of a Campus with responsibility for controlling finance. The Chair of a Campus Council is usually an outstanding person of the community.

Campus Finance and General Purposes Committees

These Committees, chaired by the Campus Principal, by delegation has responsibility for approving expenditure of any kind vested in the Campus Council. The Campus F&GPC may receive advice from the Campus Planning and Development Committee as well as the Campus Investments Committee.

Academic Board

This Standing Committee of Senate exists for each Campus. Its composition and procedures are prescribed by Ordinance. Academic Board exercises powers delegated to it by Senate which are not exercised by the Board for Undergraduate Studies (BUS). Among its powers is the ability to require a student to withdraw from the University on academic grounds. In accordance with the disciplinary regulations of the institution, an Academic Board can dismiss any student, subject to the right of appeal to an Appeal Committee of Senate.

Quality Assurance of Resource Management

The University assures the quality of its resource management through the Campus Quality Assurance Programme Office (CQAP). This Office is concerned with facilitating the development, management, assurance and enhancement of total quality at the Cave Hill Campus. Although its principal focus is on the enhancement of the campus systems, it works in collaboration with the University's Quality Assurance Unit to achieve the common objectives of the university system.

Quality Management at Cave Hill also encompasses internal/external independent audits and accreditation. These include internal auditing by the Audit Management Unit and risk based internal auditing and enterprise risk management. The objective of an operations review is to determine and assess whether a particular Section is successfully achieving its objectives, as well as to make recommendations to assist the Section in fulfilling its programme responsibilities effectively. The frequency of audits is associated with the risk assessed. External auditing is also performed by independent auditors. Such audits are performed to ascertain the validity and reliability of information. They can also provide an assessment of an entity's internal controls.

The Human Resource management systems are operated by the PeopleSoft system which has been upgraded to the more recent 9.0 version. This has provided improvements in current functionality, including Self Service, search capabilities, an employee portal, the ability to track data on different persons of interest who are associated with The UWI, and rapid entry of earnings on the pay sheet (which will be useful for overtime).

The Banner system is continuously being improved and upgraded in order to provide optimum function for its users. As part of an university-wide process review, consultants conducted an intensive post-implementation assessment (PIA) of the Banner Student Administration and Finance systems with reports from this process submitted in July 2009 and August 2009 respectively.

Recommendations for Improvement

- The PeopleSoft system at Cave Hill is currently centralised under-utilized and more persons are being trained and empowered to utilise this system
- Ongoing improvements to the Banner system are being addressed to provide maximum function for its uses

3. Curriculum

Within the last decade, in defining its teaching and learning imperatives, the campus has given priority to initiatives aimed at promoting learner-centredness, curriculum renewal, quality assurance, and the harnessing of technology to enhance teaching and learning effectiveness. The campus draws on a variety of information sources to guide developments in these areas. These include informal workshops, student surveys and formal commissions or think tanks.

The Campus has a history of investing in research to inform its strategic ambitions as far as teaching and learning are concerned. In May 2005, Professor Sir Hilary Beckles launched a 13-member curriculum review commission to assess Cave Hill's suite of academic programmes with the specific aim of improving their relevance to the labour needs of the region. This think tank, headed by Sir Allan Fields, comprised representatives of the private and public sector. Meetings were held with faculty and consultations were initiated with students and other stakeholders.

Following the publication of the Fields Report on Curriculum Development and Design, the campus' Academic Board met to discuss the report's recommendations. Among these was a call for the enhancement of English Language competence among students. The review meeting paved the way for the appointment of full-time language and communication instructors to augment the university's capacity for English Language instruction during the 2007 academic year. English Language teaching has since been further enhanced with the introduction in 2008 of a new Communications Studies programme, including Introduction to

Human Communication I and Introduction to Public Speaking through the Department of Language, Literature and Linguistics.

In addition to the work of the Fields Commission, individual departments at Cave Hill have also conducted their own internal reviews, or have been involved in external reviews, which have informed curriculum enhancement. For example, a 2006 review of the former School of Clinical Medicine recommended the upgrade of the School to a full faculty, including provision of requisite medical library and other facilities. The upgrade was duly accomplished with the intake of the first cohort of students into the Faculty of Medical Sciences in September 2008 and the opening of the Faculty of Medical Sciences Teaching and Laboratory Complex in October 2009.

At the operational planning level, the Academic Quality Assurance Committee (AQAC) has played a pivotal role in curriculum renewal and continuous academic improvement. This committee's mandate, among other things, is that of ensuring that all new undergraduate courses and programmes are of the highest quality in terms of pedagogical standards and relevance according to market demands. A key mechanism for ensuring rigour in the design and development of new or enhanced programmes is the Committee's 'Handbook for Undergraduate Programme and Course Development', which effectively provides a template for proposals for new or enhanced courses and programmes.

In preparing course/programme proposals for review by AQAC, academic departments are required to provide a clear rationale for their submissions, supported, for example, by evidence of need or demand for the proposed programme. To do this, departments rely on a variety of formal and informal studies. At the graduate level, a similar mechanism obtains for the approval of programmes, with the Campus Committee of the School for Graduate Studies and Research having oversight of the process, based on adherence to the approved guidelines for submission of taught graduate programmes.

The work of the Academic Quality Assurance Committee is directly supported by the campus' Instructional Development Unit. The IDU continues to be guided by the Handbook for Undergraduate Programme and Course Planning and Development as it trains lecturers and tutors in course and programme design and implementation as part of its Postgraduate

Certificate in University Teaching and Learning (CUTL) programme. The programme has sought to encourage and facilitate the paradigm shift from teacher-centred to learner-centred instruction, raise the profile of teaching as a valued activity within the academy, and as a scholarly activity; contribute to the development of the emerging quality assurance mechanisms, and facilitate the purposeful use of appropriate technologies, in particular, web-based technologies, in teaching and learning.

The design of the CUTL training programme itself continues to be informed by research into the competencies and needs of participating lecturers. This programme was started at Cave Hill in February 2009 to enhance the teaching skills of lecturers and improve their delivery of the curriculum. This programme includes four courses: *Teaching and Learning: Theory to Practice*; *Assessment in Higher Education*; *Advancing Teaching and Learning with Technology*; and *Reflective Teaching for Learning*. These are delivered primarily by the Instructional Development Specialist with the assistance of the Educational Technologist who delivers the technology course. Other professional members of the University contribute, voluntarily, to the delivery of the programme as necessary. Since 2009, over 120 lecturers and tutors have received professional development training in order to enhance the quality of teaching at the Cave Hill Campus.

Recommendations for Improvement

- Incentives could be introduced to motivate and encourage more experienced, tenured faculty to access specially designed developmental workshops.
- The mechanisms for the design and approval of taught graduate programmes and courses need to be better aligned with the mechanisms which guide the process for the design and approval of undergraduate programmes and courses.
- An increased allocation of staff and resources to the Education Media Services and the Instructional Development Unit should be considered to facilitate greater levels of staff training across campus and oversight of courses and programmes to be revised and designed.

4. *Programme Capacity, 5. Student Access, Short, Medium and Long Term,*

The clear statement of policy for tertiary education in Barbados in 2003 required tertiary institutions to develop appropriate strategies to create and improve student access in accordance with the goal of *At least One Graduate per Household – the national target for 2020*. All tertiary institutions were expected to participate in realising this goal.

The tertiary sector was to achieve a target enrolment of 50% of the relevant Barbadian age cohort by 2020. A major emphasis was placed on international students. In 2011, the campus reached just under 9, 000 students. In response to the Caricom agenda for dramatic increases in enrolment, the campus has had to address acute shortages of appropriate teaching spaces, office space, facilities for cultural expression and recreational and other resource services.

There is no tradition at Cave Hill of government providing annual budgetary contributions to for capital development at the Campus. The response has been commendable.

6. *Financing*

The Cave Hill Campus has procured significant sums of non-governmental funding. It has launched a Development and Endowment Strategy to sustain private sector and alumni contributions. However, the recent drastic reduction in government contributions (35% between 2009-2012), in addition to mounting arrears, of debt owed by the Barbados Government, the university's plans to address student access, programmes and project enhancements have been severely impaired. Commitments made by the Barbados government to the University Grants Committee, if honoured, should improve funding provision in order to allow the campus to maintain its viability.

The Barbados Community College

1. *Student Support*

BCC provides a reasonable level of student support through the close level of interaction of tutorial staff with students and trained officers in the following units:

- Counselling and Placement Centre and its adjunct the LIME Academic Enhancement Centre that was established to assist students with poor performances who required personal assistance
- Office of Student Affairs which assists in pointing students to the appropriate office to get the requisite assistance
- College Library that offers research assistance to students in addition to other library services
- Student Health Clinic which has a nurse on duty and a weekly visiting physician
- Physical Education and recreational sports.

The College is a multi-campus institution and most of the services are offered on a continuous basis at the Eyrie campus with special arrangements being made for the services at the Hospitality Institute. It is imperative that all services are made available to all students irrespective of the campus on which they are pursuing their studies. Student support also needs to be strengthened with the use of information technology for communication and curriculum purposes.

Recommendations

- Increase student access to library resources through more online resources through assignment of user IDs (email addresses) and passwords to all students so that library resources of all tertiary institutions are accessible to all students in the system.
- Introduce counselling and wellness resources on all campuses.
- Introduce a structured physical education and sporting programme for all students

2. Governance and Administration

The Governance Structure of the College is as follow:

- Board of Management
- Principal
- Deputy Principal

- Divisional Heads, Registrar, Finance Officer, Director of Counselling & Placement
- Tutorial Staff
- Instructional Support Staff
- Ancillary Staff

Until very recently the Principal, Deputy Principal, Registrar and Finance Officer were responsible for the management of all business functions at the College. However, efforts are currently being made to introduce additional management personnel to rationalize the duties and to improve effectiveness. For example, a Manager - Human Resources and Labour Relations has recently been hired.

Further improvements are expected with the addition of an Information Systems Manager. There will, nonetheless, be a need for further staff improvement in areas such as business development, marketing and communications, facilities management and alumni relations.

Recommendations

- The creation of relevant units with suitable posts to manage the business processes at the college (marketing, communications, information systems, business development, alumni relations, employer relations)
- The coupling of the curriculum development officers with quality assurance officers to create a full-fledged quality assurance unit that can manage all aspects of quality assurance in all processes at the institution.

2. Curriculum

The College delivers a comprehensive curriculum with certificate, associate degree, diploma, bachelor's degree programmes across a wide range of subjects. (See appendix 2).

The programmes in the Allied Health, Hospitality and Tourism, and the Visual and Performing Arts are well poised to be developed into bachelor's degree programmes and the College plans to upgrade them.

Expansion or upgrade of curricula is constrained by resources. In seeking to upgrade a curriculum the requisite supports must be in place to ensure that quality is built into the programme from the design phase. Skilled resources (human and material) are needed to develop the programmes referred to above to the bachelor's level. It is recognised that these programmes are required to sustain economic growth of the country.

Recommendations

- The introduction of bachelor's and master's degrees in applied science, health, visual and performing arts, hospitality and tourism, technology, language learning for technologists and other technical and vocational disciplines.
- Upgrade of the present infrastructure to support existing and predicted growth in the areas mentioned above.
- Creation of partnerships with the private sector for financing and delivering some programmes

3. Programme Capacity

Currently, most programmes at the College have reached the maximum capacity that permits them to be delivered with quality assurance. However, with the strategic addition of resources many of the programmes may be expanded to accommodate more students. In addition the infrastructure needs to be upgraded to maintain quality within the existing programmes.

Within the visual and performing arts programmes are offered at the associate degree and bachelor's degree levels. Partnerships have to be developed with secondary schools and the Ministry of Education and Human Resource Development to increase quality enrolment.

Evidence is emerging that a structured approach is required to attract more students to study within the science disciplines. The hard sciences (Chemistry, Physics, and Mathematics) and geography have not been attracting candidates in the numbers that they were attracting them

before. This has implications for the development of research in the field of science and technology in Barbados and the ability to solve problems within the environment. It may be necessary to incentivize the study of the sciences to attract students in larger numbers.

The Barbados Language Centre is currently housed in a new building that came on stream in 2008. There is capacity to increase student numbers in foreign languages.

Recommendations

- There is greater need for rationalization of the existing physical plant. BCC programmes may be delivered at SJPP and vice versa. The capacity of some programmes may be limited more by instructional staff and the availability of suitably prepares students than the availability of physical plant. This suggests that there is need for conversation with the other tiers of the education system to ensure that students are moving through the various levels of education at the “desired” rate.
- In some instances some lecture theatres and specials rooms (visual and performing arts studios) are required to enhance the delivery of the curriculum.

4. *Financing*

The manner of financing tertiary education is essentially a matter that is to be decided by the political directorate and public tertiary institutions must follow the mandate given. However, public tertiary institutions usually recommend some basic student fees that enable them to assist with the provision of student support services.

The Samuel Jackman Prescod Polytechnic

I. Student Support

The Polytechnic has a limited set of support services that presently exists. It is generally accepted that a more comprehensive student support system is needed to promote student success. This present thinking is captured and reflected in strategic goal No. 3 of the new strategic plan 2010 – 2015. Currently, there is a Guidance Officer's Programme mainly focused on providing the institution's training courses and programmes in the Secondary Schools. This needs to be intensified. There needs to be a Guidance Counsellors Programme to cater to the psychological and emotional needs of students. There needs to be active academic counseling for training. There is a library service that is gradually being improved but the process needs to be accelerated. There is provision for a students' council with the president being able to sit at the decision making level within the management of the institution.

There is limited service catering to the needs of foreign/international students. A dedicated desk or office needs to be further developed as the institution seeks to establish the institution as a regional leader. As it relates to non academic activity there is an active Christian fellowship effort which is student led, and a key club group.

Recommendations

- Implementation of a peer tutoring programme
- Introduction of a student retention support programme
- Arrangement of scheduled tutorial in the mainstream of delivery
- Establishment of an active student appeal process
- Increased campus safety
- Employment of a careers counsellor toward careers design making
- Employment of a staff nurse

2. Governance and Administration

The existing structure reflects the relationship between the Ministry of Education, the Board of Management, the Senior Management team, and the Middle Management team consisting of academic Heads of Divisions and Administration Heads of Divisions. There is an academic Board which contributes to decision making and academic matters.

Recommendation

It is necessary to recruit adequate staff to manage the development and delivery of specific areas of service delivery e.g. HR Management, Quality Assurance.

3. Curriculum

The institution has developed a curriculum in response to local industry needs. In addition, students are entered for an international qualification from the City and Guilds of London Institute. The Development of the NVQ/CVQ programme for appropriate levels of certification is actively pursued. There is an adequate supply of resources to satisfy our mandate.

Recommendations

- The establishment of functional advisory committees to enhance course development.
- Recruitment of additional curriculum development officers.
- Increased training opportunities for staff in curriculum development.

4. Programme Capacity

The institution is structured in a way that allows for a course loading of fifteen (15) students per course/programme.

Concerns

- Inadequate lab/space to accommodate all students who would want to be trained in the specific discipline.
- Oversubscribed areas e.g. Electrical, Business Studies, Care of the Elderly, Cosmetology, Automotive

5. Increased Student Access

The institution is presently operating at its maximum design capacity. Space is limited.

Recommendations

Short Term	Medium Term	Long Term
Day release training	Extended working hours	Extended working hours
Intensify OFL modality	Summer Courses	Flexible timetabling
	Blended learning	Summer Courses
	Day release training	Blended learning
	Intensify OFL modality	Day release training
		Established OFL Modality

6. Financing

The delivery of Technical Vocational Education and Training is cost intensive. The allocation of funding is not representative of this fact. It is far below the realistic level.

Challenges

- Inability to deliver all aspects of programmes
- Inability to provide sustained maintenance programmes to plant and equipment.

Recommendations

- An initiative toward private sector involvement through funded partnerships. e.g.
 - The autotronics lab
 - The business studies computer lab
 - The students car park

Erdiston Teachers' College

1. Student Support

The services provided in this area by Erdiston College are inadequate. There is a Students' Council which makes input into co-curricular activities and also informs the College administration of concerns which students have regarding College-related matters. The College has provided a room (with limited seating capacity) with a refrigerator and microwave for student-teachers. There was also a small students' lounge which was recently gutted by fire as was the cafeteria. The College's library holdings are considered to be adequate. However, physical space in the library is limited. There is no onsite provision of counselling services for students. This is due to the fact that the student-teachers are public officers and counselling is addressed by a selected company for all public officers. Where students require assistance related to academic matters, this is provided by senior staff.

Recommendations

- The College should offer extracurricular activities
- There should be provision of a sick bay
- A fitness programme should be offered
- The College's physical plant, specifically, the library and students' lounge should have adequate seating
- Adequate campus security should be provided

2. Current Status of Governance and Administration

Erdiston Teachers' Training College is governed by a Board of Management which meets on a monthly basis to formulate general policies and exercise authority over the implementation of programmes of study. The Board of Management also advises on financial policies. The composition of the Board is broad-based, comprising members from primary and secondary principals' associations, Ministry of Education and Human Resource Development, and other persons selected by the Minister. Minutes of the Board Meeting are recorded and sent to the Ministry of Education and Human Resource Development.

The College has a clearly defined mission statement. Through collaboration with the Ministry of Education and Human Resource Development and other stakeholders, the College seeks to ensure that its goals, aims and objectives are related to the intended target population and are relevant to the needs of the society.

Admission to the College's programmes is guided by an admission policy which specifies the criteria. These criteria are outlined in the various handbooks. Since the major programmes offered by the college are owned by the University of the West Indies, individual handbooks provide participants with general guidelines on procedures and policies for courses. Handbooks for certain programmes are developed by the College; while others are prepared by the University of the West Indies.

Concerns-Admission Policy

The criteria for entry to the College's programmes need to be published so that prospective applicants would be aware. This could be facilitated through the provision of brochures which applicants could access from the College. The admission policy could also be posted on the College's website.

Since some handbooks for certain programmes are printed by the College and others are prepared by the University of the West Indies, there is a lack of uniformity in policy, form

and structure. The handbooks are also inadequate in some respects, in that they do not provide guidelines on how students could gain credit for certain courses previously completed at the University of the West Indies.

Acting Appointments

The majority of the members of the academic staff are not permanently appointed in their posts. Hence, there is a lack of security of tenure.

Challenges

There is some level of dissatisfaction with certain aspects of the programmes being offered by the college. Student evaluations suggest that courses are very informative and professionally rewarding, but they are too burdensome. They also indicate that courses need to place greater emphasis on the practical application of the theory.

The full-time professional resources of the College are inadequate to service the programmes currently being delivered by the College. Consequently, there is a heavy reliance on part-time staff. This affects the cohesiveness of the College's staff.

Furthermore, the number of administrative activities which full time senior staff members are called upon to complete reduces the time available for the delivery of professional services to students, such as tutorials and the supervision of practical teaching.

The College uses evaluation forms at the end of each semester to elicit feedback from students about their level of satisfaction with the respective programmes. However, the College does not have the autonomy to implement immediate measures to address concerns raised about programme content and assessment procedures.

The College is unable to address issues of unprofessionalism which are noted among student teachers because the assessment process does not include any measurement of attitudes, dispositions and deportment. Additionally, many student teachers are appointed to the system

prior to their acceptance at the College. Hence, the College cannot do anything that would affect their tenure.

Recommendations

- Brochures should be developed on the College's programmes and made accessible to the public.
- The College needs to have one handbook which outlines all of its programmes.
- All handbooks for the College's programmes should be placed on the College's website
- College tutors need to be appointed in their various posts.
- The UWI should develop a system which allows students at the College to be exempted from similar courses which they have successfully completed with that university.
- Instruction at the College should focus more on the practical application of theories taught.
- More full-time tutors need to be appointed to the College. Tutors are needed in the areas of Mathematics, Early Childhood Education, Special Needs Education, Psychology, Sociology, and Physical Education.
- The College should appoint a Registrar to deal with the administrative duties involved in managing the various programmes being delivered.
- In addition to the passing of courses at the College, student teachers should have to demonstrate that they are in possession of the relevant attributes that are critical for the teaching profession. Hence, an attitudinal scale should be introduced into the assessment process at Erdiston College. Those persons who demonstrate weaknesses in this area should be recommended to the Ministry of Education and Human Resource Development for counseling and careful monitoring. This scale could be linked to the Code of Ethics for Teachers.
- More autonomy should be given to the College to implement measures to address concerns raised by students about programme content and assessment procedures.

3. Curriculum

Over the years, tertiary level institutions throughout the world have been grappling with curricular issues in order to meet the needs of their student population. These issues range from curriculum overload, repetition of content in the various disciplines, and articulation of courses from one tertiary level institution to another. These issues indicate that the curriculum is dynamic and should be congruent with the changing needs of society. These issues therefore, present some challenges for tertiary level institutions. Curriculum specialists and other subject specialists are expected to find suitable solutions to address the issues, to the concerns and challenges that arise in curriculum.

The concerns with regard to curriculum at the tertiary level, specifically in teacher education, are related to repetition of content in various disciplines. It is quite noticeable in initial training programmes, where students are confronted with similar content in different courses. Concerns also relate to problems of curriculum overload. The number of courses to be covered has raised concerns among students and faculty. Additionally, the question of articulation features highly in the list of concerns. The lack of clear guidelines for articulation presents a problem to students because they are unable to move from programme to programme, or institution to institution without wasting time or duplicating efforts and courses.

The challenges with regard to curriculum at the level of teacher education related to the breadth and depth of the content to be covered in the various course offered. Another challenge relates to the theoretical nature of courses. This presents problems for some students who are unable to cope with the rigour associated with studying. In some cases the challenges with respect to the curriculum relate to the attitude and self discipline of the students. For example, some students are not independent or self-regulated learners and may experience problems in assimilating and processing information in the various disciplines.

Based on these concerns and challenges the following recommendations are submitted for consideration.

1. Avoid curriculum overload by ensuring that too many topics are not written into the content of the various disciplines.
2. Establish a system of acceptance and transfer of credits that would facilitate articulation from programme to programme, and institution to institution.
3. Encourage team planning among tertiary level educators in their respective disciplines in order to avoid repetition.
4. Make courses relevant to the various levels of teacher training by engaging faculty more directly in the process of course and programme development.
5. Pay special attention to the breadth and depth of content to be covered in the various teacher training programmes.
6. Involve curriculum development specialists and resource persons to guide the subject specialists in the development of courses.
7. Be more selective in choosing students who apply to gain access to prescribed programmes.

4. Programme capacity

Statistics for the academic year September 2011 to June 2012 revealed a 14% increase in the student body for that period. Also of note is the continuing educational programme facilitated by the College which is usually oversubscribed due to space constraints. One programme in particular had to be postponed due to current repairs.

Concerns

- Inadequate classroom space
- The number of deferrals in some programmes (Dip Ed Secondary and Cert Ed)

- The absence of professional development / refresher courses available to past graduates

Challenges

- Some programmes are oversubscribed which affects available space, especially with current and expected construction

Recommendations

- Provide courses electronically either fully online or using blended format
- Provide professional development / refresher courses to upgrade methods and pedagogical changes of graduates using either fully online or blended format

5. Increased Student Access to Education: Short Term, Medium Term, Long Term

Concerns and Challenges

Globalization has increased competition. The current economic situation has resulted in inordinately large budget cuts from the Government. Thus, the College strives to function with an inadequate staff complement as well as a glaring lack of physical infrastructure. A block with classrooms fully equipped with new technologies would redress this situation. The College is not equipped in terms of physical infrastructure to respond adequately to the demands of society; it also needs to offer some courses by distance and on line.

Students leaving school with A Levels cannot immediately access the Associate Degree in Education programme as the College has been mandated to train persons currently in the system.

Recommendations

- Obtain statistics from the Ministry of Education and Human Resource Development regarding the number of trained and untrained Graduate teachers currently in the primary and secondary schools in the various disciplines. These records would enable us to monitor and evaluate the situation on a yearly basis.
- Obtain from The UWI and the Ministry of Education statistics regarding the number of persons with appropriate qualifications who have been turned away from programmes offered at Erdiston in the last three years.
- Untrained teachers should not be appointed to the service.
- Admit persons desirous of being trained as teachers immediately after A Levels (or after leaving school with CSEC) for the Associate Degree in Education. Programme of content would need to be designed for the secondary level in the various disciplines. Existing Pre- Erdiston programme may cover necessary content for the primary level.
- Offer teacher training in the Associate Degree in Education in Music, Physical Education, and other disciplines taught in our schools. There would be implications for the budget, a need for additional staff, and additional classrooms (fully equipped)
- Offer teacher training in the Diploma in Education Secondary (Day) in areas such as Music, Home Economics, Physical Education, Home and Family Life Education and other disciplines taught in our schools Syllabuses for each course would have to be presented to The UWI for approval and acceptance if we continue to function in the present manner.
- Offer teacher training in the current Diploma in Education Secondary (Evening) in the daytime with release from the schools and additional

time to include content in the subject area. Again there will be budgetary implications (additional staff, additional fully equipped classrooms).

- Access to programmes for persons specially challenged /differently able / with disabilities should be examined.
- Distance education - Offer online or blended courses, (implications include an increased budget, additional academic and technical staff, technical support, realistic time frame to develop and teach the course, need to increase physical infrastructure, specialist expertise then available to more persons)
- Develop entry criteria for mature students already appointed (include teaching experience, professional development courses, etc.) to access programmes
- Erdiston College should develop an early childhood programme (Associate Degree or Bachelor) as well as one for special needs programme (Associate Degree or Bachelor)
- Offer courses (varying levels) in computer literacy and technology integration for already trained teachers
- Offer refresher courses for the various disciplines
- Increase the number of males admitted to programmes

6. Financing

Erdiston College continues to be fully funded by the Government of Barbados. Wages and salaries, all supplies, including stationery are provided by the government through the Ministry of Education and Human Resource Development. Student teachers pay a registration fee only which varies according to the course of study being undertaken.

Students in the Associate Degree in Education programme (full-time) pay \$900.00 to cover the two-year period; while those in the Diploma in Education and Certificate in Educational Management and Administration programmes pay \$390.00.

Full-time students who are desirous of resitting examinations they have failed, for reasons other than illness, are required to pay an examination fee of \$100.00 per subject. This policy has only been instituted at the start of this academic year, September 2011. If fees were charged and made directly available to the College, the College's administration would be able to improve to some extent, the physical plant over time; as well as provide amenities for students.

**Technology Solution: Using Technology to Link Campuses
(Caribbean Knowledge Learning Network)**

CKLN and C@ribNET: Bringing 21st Century Capacity to Tertiary Education in Barbados

With a mandate from CARICOM, CKLN is working to establish a dedicated high speed network which is expected to systematically connect Barbados to other research and education networks worldwide. Popularly termed a National Research and Education Network (NREN), it is increasingly viewed as a vital component of modern teaching, research and learning. Some one hundred countries in the world have adopted the NREN as the centrepiece of their information and communication technology (ICT) plan for tertiary education institutions and for connecting research institutes and other institutions such as schools and hospitals.

The establishment of C@ribNET across the region will link the Caribbean to the rest of the Tertiary academic world in a manner that can amplify and expose local research. The publication and collaboration potential for academic faculty is exponential and can only bode well for all regional colleges and universities. CKLN has presented the potential for growth and professional development through C@ribNET.

The CKLN Project was established in July of 2004 with the strategic objective of enhancing the global competitiveness of the Caribbean by upgrading and diversifying the skills, knowledge and human resources in the region through greater collaboration and connectivity.

Thus far, the three key project components have been:

1. Institutional Strengthening- Building capacity in the tertiary education institutions in the region, necessary for the successful adoption of new approaches to learning and the sustainable and strategic management of the host institutions;

2. Connecting the Caribbean- Harnessing state-of-the-art communications technologies to provide a virtual learning network between tertiary education institutions in the Caribbean; and
3. Enabling Regional Mechanisms- Facilitating the success of tertiary institutions, particularly as these relate to training, accreditation, quality assurance, standards, financial transactions, learning management and technical support.

Currently, the primary project being executed is the development of national research and education networks within member states. These networks will integrate to form a high capacity, broadband, fibre optic network called C@ribNET. This network is to be developed and managed by the CKLN.

The full development of C@ribNET is currently the core activity engaging the CKLN. It is a Wide Area Network (WAN) that will be configured to connect tertiary institutions and research entities within the Community. Once connected to C@ribNET these organizations will be connected to other closed (private) research and education networks in Europe, North America, Latin America, Asia, Africa and the rest of the world. A representation of these global research and education networks is seen at Figure 16. C@ribNET would be a closed network as opposed to commercial Internet, with dedicated knowledge, learning and research applications.

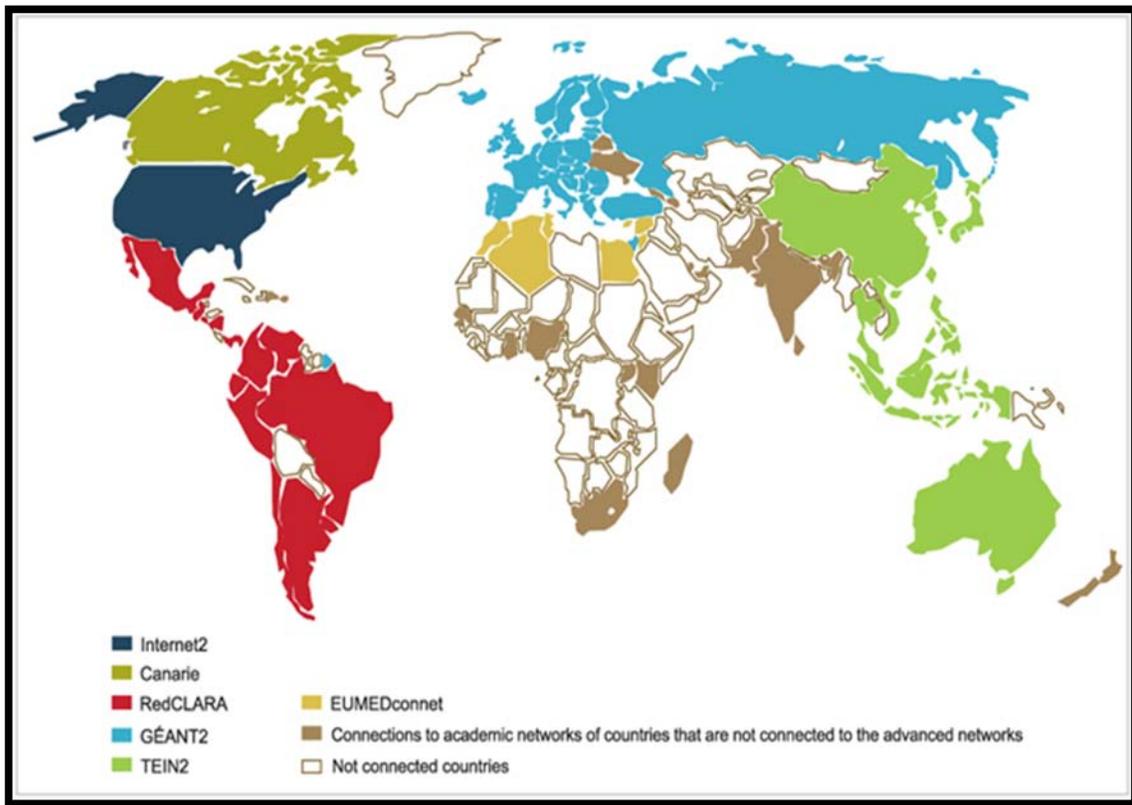


Figure 16. Research and Education Networks across the Globe

In order for Barbados to fully utilize C@ribNET efficiently, Government must continue to improve its internal telecommunications infrastructure currently supporting the tertiary sector. While significant steps have been made in the last three years with the digital footprint at the post-secondary level, the race is on to play “catch up” with The UWI.

Using Technology to Link Campuses

One advantage of this project is the forging of closer working relationships across all campuses in Barbados. This national network will facilitate the sharing of information and resources on both a national and international level. Institutions will be able to share and exchange information seamlessly across the region.

They will find it easier to share research and development materials and other documents internally and between themselves. This representation of the eventual regional capacity is seen at Figure 17.

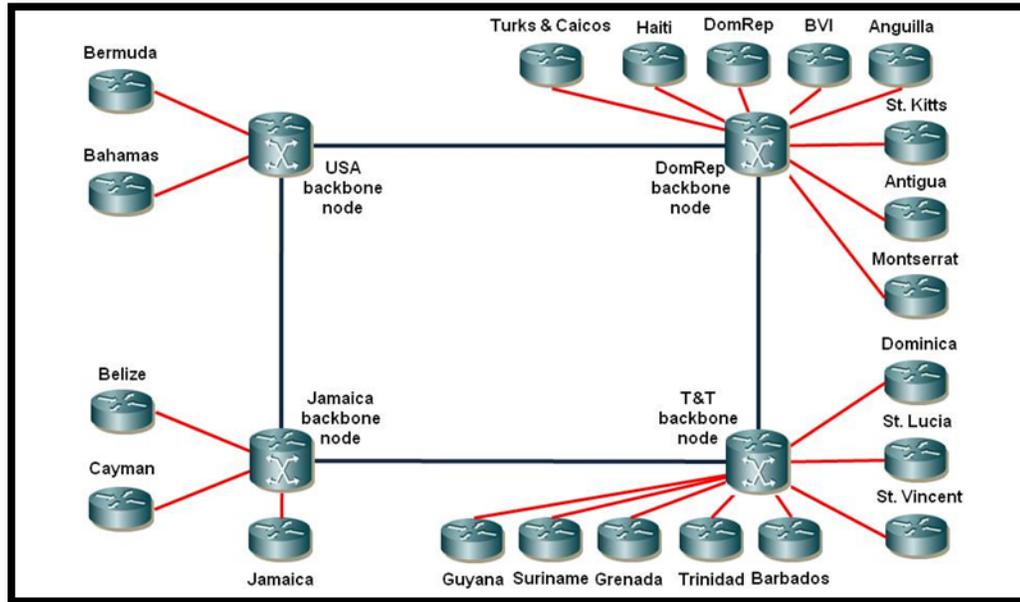


Figure 17. . Connectivity within the CARICOM Region

The institutions that would initially comprise phase I of the Barbados National Research and Education Network (BNREN) are:

1. Barbados Community College (BCC)
2. Caribbean Examination Council (CXC)
3. Caribbean Institute for Meteorology & Hydrology (CIMH)
4. Erdiston Teachers' Training College (ETTC)
5. Higher Education Development Unit (HEDU)
6. Samuel Jackman Prescod Polytechnic (SJPP)
7. University of the West Indies Cave Hill & Open Campus (The UWI)

The Barbados NREN will provide the platform for accessing digital resources, instrumentation, supercomputing essential for international collaborative research and learning between researchers in the Caribbean and around the world. It is envisaged that

C@ribNET would be used to bridge the digital divide in the region and contribute to social cohesion of Caribbean people through digital inclusion. C@ribNET is intended to support the Caribbean integration process by providing an enabling environment through connectivity, in support of the Caribbean Single Market and Economy (CSME) and strengthen functional cooperation among Caribbean member states.

Impact of Technology on Learning

In 2010, Educause in collaboration with New Media Consortium published a seminal document entitled *The Horizon Report: 2010 Edition*. It should be noted that Educause is one of world's leading technology integration research bodies whose mission is to advance higher education by promoting the intelligent use of information technology. The report highlighted some key observations which are worth using as bench mark of our total tertiary institutional capacity (Johnson, L., Levine, A., Smith, R., & Stone, S., 2010). An advisory panel suggested that the following trends should be emerging drivers of technology on campuses during 2010-2015:

1. The abundance of resources and relationships made easily accessible via the Internet is increasingly challenging us to revisit our roles as educators in sense-making, coaching, and credentialing;
2. People expect to be able to work, learn, and study whenever and wherever they want to;
3. The technologies we use are increasingly cloud-based, and our notions of IT support are decentralized; and
4. The work of students is increasingly seen as collaborative by nature, and there is more cross-campus collaboration between departments.

The report discussed critical challenges facing academia, as the tertiary sector is constantly adjusting to an ever changing ICT landscape. It was suggested that the following challenges will significantly impact teaching, learning and creative inquiry as these activities intersect with emerging technologies:

1. The role of the academy... including the way we prepare students for their future lives... is changing;
2. New scholarly forms of authoring, publishing, and researching continue to emerge but appropriate metrics for evaluating them increasingly and far too often lag behind;
3. Digital media literacy continues its rise in importance as a key skill in every discipline and profession; and
4. Institutions increasingly focus more narrowly on key goals, as a result of shrinking budgets in the present economic climate.

Finally, the Advisory Panel suggested that colleges should be prepared to manage the impact of six key technologies. They were: Mobile computing; Open content; Electronic books; Simple augmented reality; Gesture-based computing; and Visual data analysis.

In 2011, Educause published the subsequent edition of *The Horizon Report* (Johnson, L., Smith, R., Willis, H., Levine, A., and Haywood, K., 2011). While the drivers of technology use on campuses remained the same, it was noted that “the world of work is increasingly collaborative, giving rise to reflection about the way student projects are structured.” The following challenges were added to the previous year:

1. Economic pressures and new models of education are presenting unprecedented competition to traditional models of the university; and
2. Keeping pace with the rapid proliferation of information, software tools, and devices is challenging for students and teachers alike.

Of the key technologies being anticipated to impact campuses, two new technologies were highlighted, namely (1) game based learning and (2) learning analytics. Whether we recognise the terminology being used in the preceding review is a simple test of our exposure and readiness to manage emerging trends and technologies impacting campuses in Barbados. The implementation of a local NREN and the continued strengthening of capacity by CKLN can only reduce the technology divide in upcoming years.

The creation of the national NREN will bring a coherent connectivity to academic and research institutions in Barbados. The relatively small number of tertiary institutions will make it easier for the development of network and eventual connection of other entities such as hospitals, schools and government institutions that have research and education orientation. While the development of network involves building the physical network that connects all these institutions equally important is putting in place the governance framework, staffing, capacity building and financing for the evolution of the network.

The NREN would be able to bring the benefits of collective buying power to universities and tertiary-level educational institutions by procuring networks and services on a national basis. This provides savings for the community of researchers, students and academics. Individual institutions or indeed countries are finding it difficult to become a serious player on the international stage without the establishment of a robust NREN.

Being affiliated with the NREN community and representing it on the international level give credibility and enhance the ability to actively participate in global research efforts. NRENs are invaluable assets on linking researchers, promoting collaboration and in the implementation of national policy on education, research and ICT. They are invaluable sources of regional cooperation. The development of this network will, therefore, be critical not only for improved access to research knowledge but also to forge the competitiveness of Barbados and the Caribbean Region. This effort, while in its early developmental stages is one which must be supported by the Government of Barbados for its tertiary institutional strengthening capacity and revenue generating potential. However, technology without the integrated human element cannot be the panacea for economic development we are all hoping for. The technology must be supported but the human resource component should be developed in parallel.

Tertiary institutions worldwide are experiencing an increasing imbalance in the ratio of female to male students in enrolment. Enrolment statistics for The University of the West Indies revealed “a disproportionately higher percentage of females to males over the past decade. In 2009/2010, the proportion of females to males was 69% to 31% for total University enrolment, 67% to 33% for on-campus enrolment, 81% to 19% for Open Campus enrolment and 78% to 22% for off-campus enrolment.” (The University of the West Indies Annual Report, 2009/2010). This report also indicated similar enrolment patterns in the Faculties of Law, Humanities and Education, Social Sciences and Medical Sciences. A different pattern was reported for the Faculty of Engineering (St. Augustine) and the Faculty of Pure and Applied Sciences (Cave Hill) in which a higher percentage of males are enrolled in these programmes, 68% male and 32% female; 52% male and 48% female respectively.

In the Caribbean and elsewhere, several reasons have been advanced for this enrolment and performance patterns recorded for males and females at the secondary and tertiary levels. The findings of Bailey (2000) indicated that at these levels, fewer males in Jamaica are gaining certification because fewer of them are participating in the educational system. However, those who are participating are doing so in critical curriculum areas such as the sciences and technical areas and are performing better than females in these areas. She suggested that “it is the wide gap between male and female participation at the higher levels of the education system, rather than differentials in performance based on rate of success, that can be used to substantiate any claim of male underachievement.” According to Bailey's findings and analysis, any discussion on the educational outcomes of males must include not only their patterns of performance but also their levels of participation.

The research has substantiated the fact that females in the Caribbean have been and are participating for longer periods of time in the formal educational system and are attaining higher educational qualifications in a range of subject areas. Several scholars have attributed gender socialisation taking place in the home and school as a critical factor for the disparities noted in male and female participation and achievement in formal education. From very early in life, girls are socialised to engage in behaviours that support academic success. They are

provided with more opportunities to engage in tasks and activities that foster self-discipline and regulation, time management and a better understanding of the schooling process. Additionally, they are reminded, directly and indirectly, of the benefits that could be accrued from educational qualifications and certification, in terms of mobility, options, and an extensive knowledge base. Apparently, stronger motivational factors and incentives are operating on females' decisions to participate longer in the educational process and to attain academic qualifications. But there is another critical reason why females participate longer in education, other than those suggested from socialisation processes. It has been observed that males can generally penetrate the labour market with fewer years of schooling than are required by females. "Women need to have four more years of schooling in order to compete for jobs and salaries similar to those of men." (Bailey, 2000). This finding reinforces how gender-role assumptions influence the practices that men and women engage in and the experiences that they encounter in every facet of their lives.

According to Brown and Chevannes (1995), "boys learn adult male behaviours from watching and participating in the male culture of their communities." They spend a lot of time outside of the home and in the company of other males where they learn the definition and cultural notions of manhood which supports an ideology of "man as warrior." (Brown and Chevannes, 1995). In their estimation, school bears little importance to boys' development into manhood. They point out that men who are considered to be successful by boys are those who have survived against the odds, and who may not have made any gains from education. The high 'dropout' rates for males at the secondary level have significant implications for their participation at the tertiary level.

It can be concluded that for many males, their definitions of success are based on criteria that are different to those used by females, and these definitions could be influenced and related to the societal and cultural notion in the Caribbean of man as 'provider', whether or not this is the case in the actual situation.

The data from the Caribbean on male participation and performance at the higher levels of the educational system suggest that strategies should be devised to ensure that this participation must be increased for the successful overall development and well-being of males.

But in redressing the situation, those with the responsibility must ensure that females are not penalised for their successful participation and academic achievement. As a region, we need to distance ourselves from the binary perspective which suggests that helping or benefitting females means hurting and disadvantaging males. In the Caribbean where we promote the view that the people are important resources, we need to ensure that all groups in our society gain access to and benefit from all educational opportunities and treatment in equitable ways.

MATCH Programme at Cave Hill

Cave Hill has instituted the 'MATCH' programme – Males at Cave Hill – in order to promote male enrolment at the Campus. Staff and student leaders attend schools and public fora and speak in support of male enrolment. The message is to counter the view in some sections of youth culture that it is not masculine to be academic. MATCH has had some success. In the past three years there has been a gradual increase in the number of males in all faculties.

It is imperative that an examination of gender equity at the tertiary level should include factors other than male disproportionate participation. At a recent panel discussion on *Gender Equality at UWI: Myth or Reality*, held at the Cave Hill campus, some of these factors and concerns were identified. These included male-dominated student representation, a persistence of gender stereotyping among male students, Deans are still disproportionately male, as well as the continued male predominance at the professorial level, the concentration of women in certain faculties, and classrooms and halls of residence that are experienced as spaces of institutionalised gender inequality, incidences of sexual and physical violence and other offensive conduct. (Gender Justice Pressure Group Panel Discussion, April, 2010.)

This group made a number of recommendations that would address the question of gender equity at this level. These are as follows:

- The formulation and implementation of a clear, coherent, comprehensive policy on gender equity at The UWI, in accordance with the legal obligations under the Constitution.
- To promote the respect for diversity and equity.

- To monitor performance against standards.
- To ensure that The UWI is a non-harassment, safe protection zone for all.
- To draft a “code of behaviour” for students and staff that identifies terms such as “sexual harassment” and other offensive behaviours.

Quality Assurance and Enhancement in Tertiary Sector



Introduction

The concept “Quality Assurance” is defined as “*an ongoing, continuous process of evaluating (assessing, monitoring, guaranteeing, maintaining and improving) the quality of a higher education system, institutions, or programmes*” (Vlăsceanu, L (2007). As a regulatory mechanism, quality assurance focuses on both accountability and improvement, providing information and judgments (not ranking) through an agreed upon and consistent process and well-established criteria.” Quality assurance includes expectations that quality control, quality management, quality assessment and quality enhancement systems are in place. “*Quality as enhancement focuses on the continuous search for permanent improvement*” (Gvaramadze, I, 2008).

The two known types of quality assurance are: internal and external. “*Internal quality assurance ensures that an institution or programme has policies and mechanisms in place to make sure that it is meeting its own objectives and standards. External quality assurance is performed by an organization external to the institution*”. The latter is performed by agencies or bodies such as the Barbados Accreditation Council.

In Barbados, the need for a quality assurance body was recognized in the mid 1990s as the tertiary educational environment was changing in that an increasing number of institutions were offering post-secondary/tertiary programmes and; Barbadians were no longer restricted to the established overseas institutions. The primary concern also was the value and currency

of qualifications particularly for transferability of students into programmes offered at the Barbados Community College and The University of the West Indies (*Government of Barbados, Ministry of Education and Youth Affairs, 2001*).

As a consequence, the Barbados Accreditation Council (BAC) was established by an Act of Parliament, 2004-11. However, its operations did not commence until two years later when the Caribbean Single Market and Economy (CSME) in Barbados was implemented with effect from January 1, 2006.

The functions of the Barbados Accreditation Council include the following:

- registering local, regional and foreign-based institutions that offer tertiary education and training in Barbados;
- accrediting and re-accrediting programmes of study and institutions operating in Barbados;
- providing for the validation of new educational courses and programmes of study being offered by institutions operating in Barbados;
- advising on the recognition of foreign based institutions and their awards;
- developing and maintaining a unified system of credits for institutions;
- providing to the public, information on the quality and recognition of programmes of study and institutions, including the annual publication of a list of accredited programmes and institutions in order to protect the interests of the public; and
- determining the equivalence of programmes and qualifications.

The Council is also responsible for the issuing of the Certificate of Recognition of CARICOM Skills Qualification to eligible CARICOM nationals as well as the verifying of the Certificate of Recognition issued by other Member States to CARICOM nationals.

BAC Quality Assurance Framework

The BAC Quality Assurance (QA) framework follows best practices regionally and internationally. As such its QA framework includes critical components such as:

Registration, which is mandatory, provides official recognition that a tertiary educational provider has met certain minimum standards to operate in Barbados, legally. As part of the registration process, providers must submit a self evaluative report, also called self study in some jurisdictions, where it is expected that a critical self analysis is undertaken against the Registration criteria. In addition, the provider is expected to undergo a comprehensive evaluation process every three (3) years by an evaluation team where the cost is borne by the provider. Registration is for one calendar year – January to December and thereafter eligible providers may be re-registered for three years, once all the criteria are met. Providers are expected to submit an annual registration report which provides information only on major changes in tertiary educational provision during the year of registration. Further, an overseas provider seeking to establish a *medical school* in Barbados and which does not have accreditation/recognition status in its home country of origin is expected to have accredited status for its programme (s) from the regional specialized accreditation body - Caribbean Accreditation Authority for Education in Medicine and other Health Professions (CAAM-HP) - before applying for registration with the BAC. Local as well as foreign providers seeking to offer tertiary education and training must meet the registration criteria to be issued with a Certificate of Registration.

Accreditation is voluntary. This form of official recognition speaks to the in-depth quality of an Institution or Programme of Study. As such accreditation can either be for Institutional or Programme of Study and the process, which is generally similar worldwide, comprises the following components as shown in Table 10.

Table 10- Process for Accreditation in Barbados

1. APPLICATION

Provider applies to the Council for Institutional or Programmatic Accreditation

2. RESPONSE

The Council reviews the application and responds to the provider.

3. PREPARATION AND TEAM SELECTION

If the response is favourable, a date is set for a visit to the provider. A team comprised of competent professionals is selected by the Council to evaluate the programme/provider.

4. EVALUATION VISIT

The provider is visited by the evaluation team.

5. EVALUATION AND PROVIDER RESPONSE

The evaluation team makes an appraisal of the programme/provider and submits a written report to the Council. The team report is sent to the provider minus the recommendation for comments.

6. REVIEW AND DECISION

The team's and provider's reports are reviewed by the Council.

7. DECISION FORWARDED TO PROVIDER

The decision is communicated to the provider along with the report on the evaluation.

8. INPUT INTO A DATABASE

The information is recorded into a database for various users.

Programme Approval – New courses/programmes of study must be validated by the Council. As such, providers are required to submit the specifications and other details to the Council for approval. The programme approval process ensures that the programme is appropriately designed and structured; adequately resourced; consistent with the provider’s mission; and has stated learning outcomes and assessment strategies that are set at an appropriate level for the qualification awarded. The new programme is evaluated against four (4) criteria which include providing evidence of the market demand for the programme.

Recognition of Qualifications, Institutions and Programmes – this facility allows members of the public to obtain statements of recognition on: (i) the comparability of foreign-based qualifications to local awards and; (ii) the recognition/accreditation of foreign-based institutions and programmes of study before pursuing studies. In particular, the BAC has an extensive campaign aimed at educating the public about the need to seek recognition of institutions and programmes before investing their time, money and effort. Its promotional activities include advertorials (print, radio and television), bus wrap, posters (in strategic locations such as the bus stand) and; a jingle. In its Certified Statements to the applicant, the Council advises that where the institution and/programme are recognized in its home country by the relevant competent authorities, the Council will recognize the institution and/programme and where the institution and/programme are not recognized, no recognition will be given by the Council. In addition, the accreditation status of the institution and/or programme is provided (e.g. duration and name of accrediting/recognition body).

Guidelines for Collaborative Provisions – Cognizant of the need to respond to the challenges and opportunities that cross-border tertiary education can present to a small developing country such as Barbados, the BAC is offering guidance to local tertiary educational providers through its *Guidelines for Collaborative Provisions* which are based on the principles outlined in the UNESCO/OECD (2005) document entitled “Guidelines for Quality Provision in Cross Border Education” and other documented best practices undertaken regionally and extra-regionally. In its Guidelines, the Barbados Accreditation Council stipulates that:

- a) The foreign provider wishing to offer post-secondary or tertiary educational programmes in Barbados through collaborative arrangements must register with the Council;
- b) Where the foreign institution is not accredited in its home country and the collaborative provision is the only programme being offered by the local institution, then the local institution will not be registered. However, if other programmes are being offered by the local institution, the local institution will be required to register;
- c) The Council will taken into account any agreements signed by the parties;
- d) The roles and responsibilities of each party to the collaborative arrangement will be considered; and
- e) The foreign qualification/award must be recognized by the Council. Recognition will be granted based on the recognition/accreditation granted by the legitimate External Quality Assurance Agency (EQAA) or recognition body in the country of origin. The recognition process is applicable to overseas providers using the following delivery modes for tertiary educational provision:
 - (i) Partnership with a local provider for delivery of its courses; and
 - (ii) Provision of its curricula, teaching and assessment materials to the local institution, with delivery at the discretion of the local partner.

Amongst other imperatives, the BAC Quality Assurance framework is intended to:

- a) protect the interests of the learner;
- b) enhance the quality of learning; and
- c) assure the quality and credibility of institutions, programmes and qualifications.

The Status of Quality Assurance and Quality Enhancement in Tertiary Education in Barbados

Registration

Appendix 1 indicates the tertiary educational providers that were registered with the Council as at December 30, 2011.

Recommendations

Given the high level of investment in tertiary education each year, at least 20% of the Gross National Budget, it is imperative that public tertiary educational institutions register with the Council as an indication of their commitment to quality educational provision. Most important, the official recognition by the Barbados Accreditation Council would send a strong signal to the public that the institutions' quality management systems are efficient and effective.

The onus is therefore on the public institutions to register with the Council as stakeholders – students, government, employers, professional bodies – are demanding accountability and relevance in tertiary educational provision based on the high level of expenditure by successive governments.

The Barbados Community College, Erdiston Teachers' Training College and the Samuel Jackman Prescod Polytechnic must therefore take the necessary critical steps toward registration with the Council.

Accreditation

As at December 30, 2011, no tertiary educational providers or programmes were accredited as the Council's accreditation programme only commenced in 2009. Given international experiences, the accreditation process for institutions could take between two to five years.

It is anticipated that by the end of 2013, significant progress toward accreditation will be made as some public and private providers have indicated their intention to become accredited by the Council and have already commenced the process. These include The University of the West Indies, Cave Hill and Open Campuses which are in the candidacy phase. Both campuses have commenced the process by establishing Steering Committees and other working committees as well as the preparation of the self evaluation (study) report.

Other private tertiary providers have submitted their letter of intent for accreditation and the Council is currently reviewing their eligibility for accreditation.

The Barbados Community College, Samuel Jackman Prescod Polytechnic and Erdiston Teachers' College will need to complete the registration process in order to be eligible for accreditation.

Recommendations

Since registration is mandatory, it may need to be enforced with the introduction of sanctions within the Barbados Accreditation Council Act, similarly to other legislation which deals with registration of professionals and services.



Developmental workshops in QA and QE conducted by the Barbados Accreditation Council. 10- 11

The Role of Articulation and Equivalency in the Tertiary Sector

What is Articulation?

Articulation is essentially about horizontal and vertical linkages and is considered a mechanism by which institutions coordinate their programmes and services to facilitate student mobility and transfer without a break or loss of time (ACTI, July 2000). The ability to transfer credits from one institution to another is critical to the students, governments, parents/guardians and other investors in education as it can save time for completion of programmes of study, avoid repetition or duplication of programmes of study and reduce the cost of education. Most importantly, articulation is intended to facilitate access, progression and inter-institutional mobility through the evaluation and recognition of prior certified or experiential learning (ibid).

Current Status of Articulation Arrangements at the Tertiary Level

Barbados Accreditation Council

The Barbados Accreditation Council has the responsibility for developing and maintaining a unified system of credits for institutions which would facilitate articulation across the tertiary sector. However, it is recognized that articulation is an institution to institution arrangement and therefore the Council's role is to create the enabling environment through its Quality Assurance framework. The qualifications framework also assists in this process since it provides a set of guidelines for equivalencies within and across certification structures.

The University of the West Indies and the Barbados Community College

There is currently an articulation agreement between The University of the West Indies (The UWI) and the Barbados Community College (BCC) which seeks to enable those students who have successfully completed Associate Degree programmes at the BCC and who have obtained certain stated profiles (overall grade points, courses studied, course-grades achieved, etc) to be eligible to register in specified first-degree programmes at The UWI and complete their degrees in two years. Those students are therefore able to obtain the Barbados

Community College Associate Degree in two years and The University of the West Indies Bachelor's Degree in a further two years. This arrangement has been in place since 1996.

The agreement between BCC and The UWI is a system-wide arrangement which considers the associate degree for

- (i) Normal matriculation status; and
- (ii) Advanced Standing, through credits, in courses required for the award of the degree.

Through this arrangement, prospective students who satisfy normal matriculation requirements are eligible to complete the first degree programme in 3 years (or six semesters). Students in specified programmes for which equivalences have been determined are awarded advanced placement based on the agreement that has been worked out through agreements reached by direct faculty to faculty determination.

Students entering The UWI are granted normal matriculation status on the basis of their performance at O-and A-Level examinations, or their equivalence. As from October, 1989, the BCC Associate Degrees in Arts and Sciences awarded with a grade-point average of 2.5 or higher, were also used as the basis for granting normal matriculation status.

The principal assumptions of the articulation agreement (Barbados Community College and The University of the West Indies, 1996) include the following:

1. Certain programme and course-descriptions at The UWI have been rewritten in an expanded form to make clear and explicit their objectives, teaching methods, and assessment methods. For example: All programmes and courses are now being designed to state explicitly, educationally sound learning objectives, assessment as it relates to objectives as well as methodological practices.

2. Quality control in assessment procedures will be monitored and evaluated through the use of one or more of the following:
 - (i) Examinations in certain courses set jointly by BCC and The UWI
 - (ii) Scripts marked by course lecturers using explicit marking procedures
 - (iii) Scripts marked by 2 examiners (first and second markers)
 - (iv) Assignments set and marked by course lecturers using agreed guidelines

3. The quality assurance arrangements at both institutions openly and consciously strive to give proper emphasis to the balance between quality and quantity of graduates and intellectual properties; between institutional autonomy and public accountability; and between the needs, interests and aspirations of the learners and the stated goals of the institutions.

The articulation agreement has resulted in advanced matriculation arrangements for students from the following programmes of study at the BCC:

- Hospitality and Tourism Management
- Business Studies
- Accounts and Economics
- Social Work; and
- Psychology

Discussions have been ongoing in the humanities (modern languages, literatures in English, history) but the progress has been very slow.

Samuel Jackman Prescod Polytechnic

There are currently no articulation arrangements in place with other local tertiary institutions. However, there is full agreement on the view that in the absence of articulation agreements, students who successfully complete the following specific programmes have all done exceedingly well in other tertiary institutions: Micro-computer Technology, Electronic Service Technology, Electrical Installation, Mechanical Engineering, Architectural Drafting and Agriculture. BCC, SJPP and Erdiston have delivered programmes jointly. The SJPP is currently collaborating with the BCC in the delivery of an associate degree in Automotive Engineering.

Erdiston Teachers' Training College

Erdiston College offers the following programmes in conjunction with the University of the West Indies:

- Diploma of Education – Secondary (Postgraduate)}
- Diploma of Education – Primary} Both programmes cater to initial training
- Certificate in Educational Management and Administration – This programme is designed for potential and current school administrators
- The Associate Degree in Education: This programme is designed for nongraduate untrained teachers.

Assignments for the Diploma programmes and the Certificate in Educational Management and Administration are prepared by Tutors at the College and sent for approval by the respective counterpart at the School of Education. After the College Tutors mark the scripts, they are all forwarded to the School of Education for moderation. The mark sheets are prepared by the School of Education and selected persons are invited to an Examinations Committee meeting where the results are declared.

There is no articulation between Erdiston College and the University regarding those programmes. With reference to the Associate Degree in Education, there was a proposed

2+2. There has been no further discussion on this. To date, students who have completed the Associate Degree are allowed to enter the B.Ed programme with exemptions from specific courses: English for Academic Writing, Language for Argument, Introduction to Educational Psychology, Introduction to Philosophy, and Social Foundations of Education.

Discussion Statements Regarding Articulation Arrangements

- The lack of wider articulation agreements between and among the four public tertiary educational institutions has prevented a seamless transition at the institutional and programmatic levels and further, between the academia and the technical vocational education and training level. This is particularly worrisome since there is frequent interaction among staff at the various institutions, not just for meetings and discussions at the managerial level, but also at the instructional level where the staffs teach part time at each other's institution.
- Improved efficiency could be achieved by minimising the repetition in the tertiary system. During the articulation discussions between BCC and The UWI in the 1990s it was agreed that in determining equivalency, 60% overlap was sufficient for equivalency and emphasis would be placed on the skills to be acquired rather than the content of a particular course.
- The foundation and advanced science courses (N1 & N2 now termed preliminary and introductory science) should be taught at the Barbados Community College rather than at The University of the West Indies and allowed for transfer of credit to The UWI.
- Lack of information on equivalency of programmes/courses has impacted on the articulation process.
- "Territorial firewalls" can easily prevent the institutions from benefitting from a synergistic working relationship. Therefore, the existence of any such "firewalls should be avoided and/or removed.

- A coordinated network system, similar to that of the United States of America, where the publicly funded community colleges and universities are legally or voluntarily linked to allow transfer of credits should be adopted in Barbados.
- There is need to ensure that students are given educational options which will allow them to mature socially, emotionally and intellectually prior to entry at the university level and as such, the support for 6th form education must be underscored. More options will also eliminate the continued requests for university admission of students at the low matriculation level since this could impact on the quality of graduates leaving The UWI.
- Life coping skills such as critical thinking, independent thought, communication and self-learning must be incorporated into the curriculum so that students are allowed to hone these competencies prior to entry at the tertiary level.

Introduction

What is Equivalency?

Equivalency is the formal assurance that programmes or courses are approved by a validating authority as being of comparable standard in weight, level and quality (ACTI, July 2000). The equivalency process also has implications for mobility within the educational system at the national, regional and international levels (ACTI, July 2000).

The elements for examination in an equivalency exercise may include the following:

- Aims and objectives of the programme;
- Duration of the programme;
- Admission requirements;
- Breadth and depth of content in the courses in the programme;
- Assessment methods;

- Teaching and learning time allocations;
- Exit level of the graduates of the programme; and
- Quality assurance and enhancement procedures of the institution.

Current Status of Equivalency at the Tertiary Level

Barbados Accreditation Council

The Barbados Accreditation Council (BAC) has the mandate to “*advise on the recognition of foreign-based institutions and their awards*”. In this regard, the BAC evaluates foreign qualifications presented by citizens of Barbados or of another country to local awards using the appropriate elements for examination to determine equivalency. The evaluation may be intended for access to a programme of study in a local tertiary education institution or to work in the Barbados labour market.

The BAC has established an Equivalency Committee which comprises the following representatives:

- Three (3) members of the Board of Directors of the BAC, namely:
 - i. Human Resource Professional (Chairman)
 - ii. Chief Education Officer or alternate, Ministry of Education and Human Resource Development
 - iii. Congress of Trade Unions and Staff Associations of Barbados
- Technical and Vocational Education and Training Council
- Ministry of the Civil Service
- Executive Director (Ex Officio Board Member)

The Terms of Reference of the Equivalency Committee are as follows:

- a. Review the recommendations of the Secretariat;
- b. Propose recommendations to the Board of Directors on the equivalency of qualifications;
- c. Ensure that decisions are reliable and can stand up to scrutiny; and
- d. Establish the criteria/standards to be used for determining equivalency of qualifications.

National Qualifications Framework

Steps have already been taken toward the development and implementation of a National Qualifications Framework (NQF). The NQF is Pillar 2 of the Barbados' Human Resource Development Strategy for 2011-2016 which was approved by the Barbados Parliament in 2011.

The NQF will comprise ten (10) levels which is consistent with the current global trends. The framework is intended to standardize qualifications, levels, credits and learning outcomes across academia and technical and vocational education and training systems, amongst other strategic objectives. It will facilitate the evaluation of foreign qualifications to local awards as well as local to local awards. The Barbados Accreditation Council has responsibility for the development and implementation of the NQF which it is anticipated will be achieved by the end of 2014.

Discussion Statements Regarding Equivalency

- With the implementation of the Free Movement of CARICOM nationals coupled with the increased access to tertiary education globally, there is an influx of qualifications being presented to the Council by nationals and non-nationals;
- The absence of a National Qualifications Framework makes it increasingly challenging to evaluate foreign-based qualifications to local awards;

- The evaluation of local to local awards is currently not being undertaken as a National Qualifications Framework is not in place; and
- Programmes/courses of study offered at the same level by tertiary educational institutions and even within institutions vary in terms of credits, content and duration.

Recommendations on Articulation and Equivalency

- The 2+2 model, that is 2 years at the college level (Associate degree) and two years at The UWI, should be used as the benchmark for matriculation and articulation.
- Within 5 years, there should be an upgrade in the capacity at the post CSEC level to avoid The UWI having to accept students of low matriculation status. This has the potential to reduce the costs of tertiary education to the state.
- Ideally, where prospective students do not meet the normal matriculation requirements, they should seek entry to the relevant programme at the pre-university level.
- The Samuel Jackman Prescod Polytechnic should be expanded and upgraded with an additional track that focuses on science and technology education with linkages to the science programmes at The UWI;
- Institutions should seek to standardize their programmes/courses of study in preparation for the implementation of the National Qualifications Framework.
- A National Articulation and Equivalency Advisory Commission should be established with a mandate to develop and implement a networked tertiary education system which has vertical and horizontal linkages to facilitate the transfer of credits and seamless transition of students. The synergistic functioning of the tertiary education institutions in Barbados should be the main focus of this commission.
- The National Articulation and Equivalency Advisory Commission should fall under the aegis of the Barbados Accreditation Council.

The Core Issue: A Revised Funding Model for Tertiary Education

This section of the document presents an assessment of the benefits of tertiary education, and offers an option for funding the sector.

An Assessment of the Benefits of University Education

Background

Since 2007, the start of the ‘Great Recession’, gross government debt in Barbados has jumped from BDS\$6.2 billion to BDS\$8.9 billion as at September 2011. The deterioration in Government’s fiscal accounts is associated with reduced income and a significant expansion in current expenditure. By the end of fiscal year 2010/2011 transfers and subsidies to the public sector were estimated at BDS\$1.2 billion, or more than 43 percent (BDS\$353 million) greater than in 2006/06. Within this context there has been a special focus on public investment in tertiary education, primarily in the student enrolment at the University of the West Indies. A ‘quick draw’ response has been that the investment in tertiary education should be reduced in order to shrink the fiscal deficit. As a result the expenditure associated with Barbadians' attendance at The UWI in particular, has become contentious.

Benefits of University Education

University education has provided citizens with social and economic benefits that are easily accounted for. Rising access has alleviated many socio-economic problems such as poverty¹, income inequality² and public health.³ From an economic perspective, it has been estimated that if the target of ‘a graduate in every household’ is achieved Barbados’ rate of annual real

¹United Nations (2005) *Innovation: applying knowledge in development*, Millennium Project Task Force.

²Rodriguez-Pose, A. and Tselios, V. (2008), *Education and income inequality in the regions of the European Union*, SERC Discussion Paper, London.

³Smart, W (2006) *Outcomes of the New Zealand tertiary education system – a synthesis of the evidence*, Ministry of Education.

GDP growth would rise by an estimated 1.2 percentage points per year.⁴ The average income of most university graduates is 80 percent higher than average income incomes in Barbados. Over the career of some professionals, (assuming no change in salary – a heroic but conservative assumption) the difference in lifetime income is almost BDS\$2 million. (*See Table 11*)

Table 11: Benefits to Individuals from Attending University in Barbados

Faculty	Median Annual Salary in Barbados*	Average Annual Salary of UWI Graduate (1 year after Graduation)**	Difference in Lifetime Income***
Social Sciences	28,416.00	41,913.60	593,894.40
Humanities & Education	28,416.00	56,640.00	1,241,856.00
Pure & Applied Sciences	28,416.00	52,675.20	1,067,404.80
Law	28,416.00	44,604.00	712,272.00
Medicine	28,416.00	72,074.40	1,920,969.60

*Source: * Barbados Statistical Service 2nd Quarter 2011 Labour Force Survey, ** Report on Graduate Tracer Survey (University of the West Indies) and *** indicates that a 44 year career is assumed.*

Fiscal Implications

The government has implemented broad based austerity measures designed to bring the fiscal deficit in line with approved standards. Tuition payment to the University of the West Indies for educating nationals has been drastically reduced. The government funding model is based on the payment of 100% of the economic cost of tertiary education. Critics of this funding models look to other countries for alternatives to reduce public expenditure. Three broad options are generally discussed in the public media:

⁴Moore, W (2005) *A graduate in every household: the potential impact of a rise in the number of university graduates on output in Barbados*, *Journal of Eastern Caribbean Studies*, Vol. 31(3), pp. 27-38.

1. Option A. Government converts up to 50 percent of each student's tuition into a loan that is repaid by the students once they find employment, either within or outside of Barbados.
2. Option B. Limiting the number of students to be funded by government or capping enrolment at the Campus and Colleges.
3. Option C. A combination of Options A and B; the Government pays tuition for a predetermined number of citizens, and converting a part of the tuition into a loan.

Table 12 shows the fiscal implications of University education in Barbados while Table 13 provides the fiscal implications of the three options outlined above. Under Option A, it is conservatively estimated that the net tax benefit to the public is positive for students from the Humanities & Education as well as Pure and Applied Sciences, while Option B only generates net tax benefits in the case of students from Humanities & Education. Option C, on the other hand, generates net tax benefits for the Government from students from most faculties. It should be noted that the wage estimates assume no wage growth over the lifetime of the individual. If wage growth was taken into account, it is likely that the net tax benefits to the government would be positive for all faculties under Option C.

Table 12. : Fiscal Implications of University Education in Barbados

Faculty	Tax Liability for Non-UWI Graduate	Tax Liability for UWI Graduate	Annual Difference in Tax Liabilities	Nominal Difference in Lifetime Tax Liabilities*	Present Value of Lifetime Tax Liabilities	Total Cost to Government for each Degree per Faculty	Difference between Tax Liabilities and Cost to Government of Degree
Social Sciences	683.20	3,382.72	2,699.52	118,778.88	32,352.02	98,979.00	(66,626.98)
Humanities & Education	683.20	7,324.00	6,640.80	292,195.20	79,585.73	98,979.00	(19,393.27)
Pure & Applied Sciences	683.20	5,936.32	5,253.12	231,137.28	62,955.27	98,979.00	(36,023.73)
Law	683.20	3,920.80	3,237.60	142,454.40	38,800.56	158,544.00	(119,743.44)
Medicine	683.20	12,726.04	12,042.84	529,884.96	144,325.71	315,510.00	(171,184.29)

Table 13: Fiscal Implications of Alternative Approaches to Financing University Education in Barbados

Faculty	Difference between Tax Liabilities and Cost to Government of Degree	Difference between Tax Liabilities and Cost to Government of Degree (Proposed Funding Adjustment A)	Difference between Tax Liabilities and Cost to Government of Degree (Proposed Funding Adjustment B)	Difference between Tax Liabilities and Cost to Government of Degree (Proposed Funding Adjustment C)
Social Sciences	(66,626.98)	(17,137.48)	(41,633.98)	(4,640.98)
Humanities & Education	(19,393.27)	30,096.23	5,599.73	42,592.73
Pure & Applied Sciences	(36,023.73)	13,465.77	(11,030.73)	25,962.27
Law	(119,743.44)	(40,471.44)	(74,895.44)	(18,047.44)
Medicine	(171,184.29)	(13,429.29)	(74,014.29)	35,155.71

Winston Moore (PhD) Department of Economics (2011)

These options are not recommended. They are considered inappropriate to the social, political, and economic context of Barbados, and subversive of the achievements the present model has delivered to the country. There is, however, need to revisit the current model.

A Shared-Costing Model: Phase Two: 2012-2020

An Adjustment for the times

The conception and implementation of a tertiary education funding model in which government paid 100% of the economic cost for students took place within discernible national economic and social circumstances. Primary in this matrix was a consideration of extreme wealth mal-distribution, endemic mass poverty, residual colonial institutional racism, economic and social injustice, and inadequate cultural confidence.

The funding model established was intended to launch an education revolution for democracy which was designed to produce a broad based middle class, popular professionalism in the human resource, and to uproot the deep historic material poverty among the majority labouring classes.

The state considered the launch of a public education revolution as the key variable in building “The Just Society”. The results of this policy have been spectacular. Barbados as a society has been significantly transformed, and the strategy largely validated.

These policy imperatives were set out some fifty years ago and have remained in place to this day. The question being asked today seeks an answer in respect of the continued relevance of this vision and policy. It is now properly recognised that while the tertiary funding model remains relevant, it is necessary to make adjustments in order to reflect the benefits of past decades. This report therefore suggests the need to make some adjustments without in any way subverting the general integrity of the model. These adjustments are intended to strengthen rather than weaken the model, and are intended to consolidate the ongoing democratization of access to education in the country.

Given the tremendous benefits of tertiary education to the growth and development of the public and private sectors in Barbados, a system of cost-sharing could now be considered for implementation. The model of financing education could therefore be adjusted to reflect the following funding allocations:

- 85% contribution by Government
- 10% contribution by private sector
- 5 % contribution by the consumer

Figure 18 represents this graphically and is included for discussion in addition to the options given above in Tables 12 and 13.

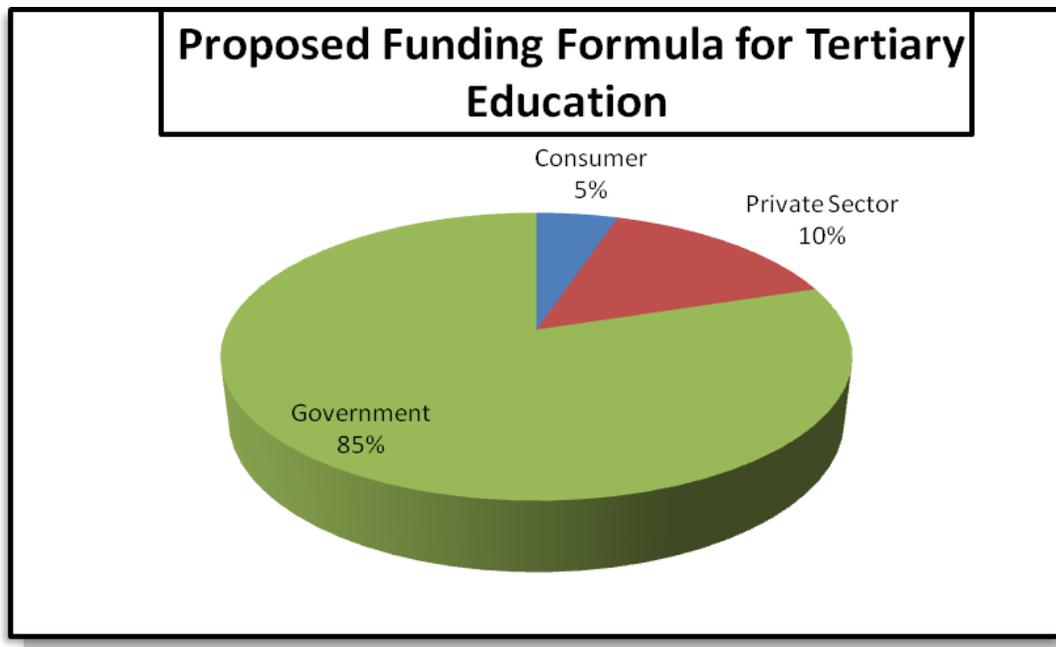


Figure 18 Proposed cost-sharing model

Table 14 extracted from the National Census data (2000) and data from the Cave Hill Tracer Survey (2008) shown in Figures 19 and 20, further justify the involvement of the private sector and students in a cost-sharing financing model for sustaining tertiary education in Barbados.

Figure 19 of the Tracer Survey shows that the main employer of The UWI graduates is the Private Sector, accounting for about 56.6% of those employed. The Public sector which comprises the civil service as well as state owned companies absorbed 33% of graduates while other entities, including the self-employed, account for 10% of graduates. The majority of graduates from Pure & Applied Sciences and Social Sciences were absorbed in the Private Sector while a majority of graduates from Humanities and Education was employed in the Public sector.

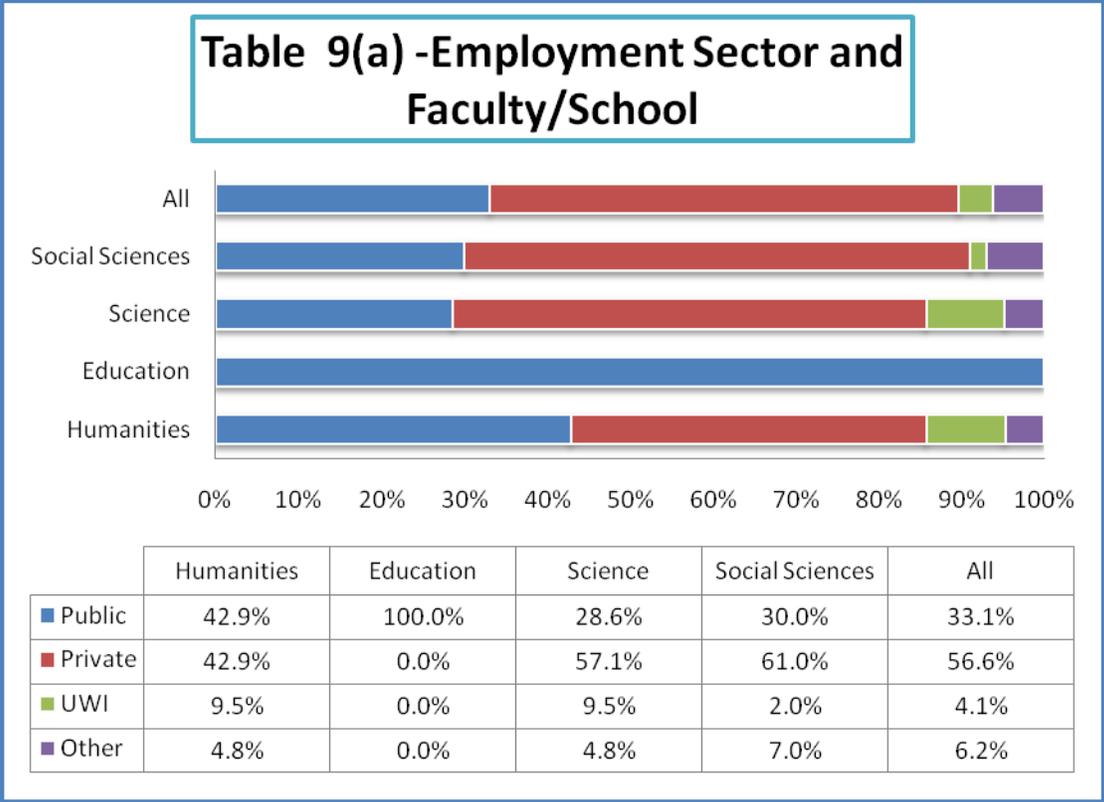


Fig 19. Employment Sector –faculty /School

Trend Analysis – Employment by Sector

The Cave Hill Tracer Study (2008) revealed that the percentage of graduates employed in the Private Sector increased from 48% to 57%. The fact that the Private Sector absorbed the majority of graduates is a result of the structure of the Barbados economy where financial services, tourism, and the international business sector are the major drivers of the economy.

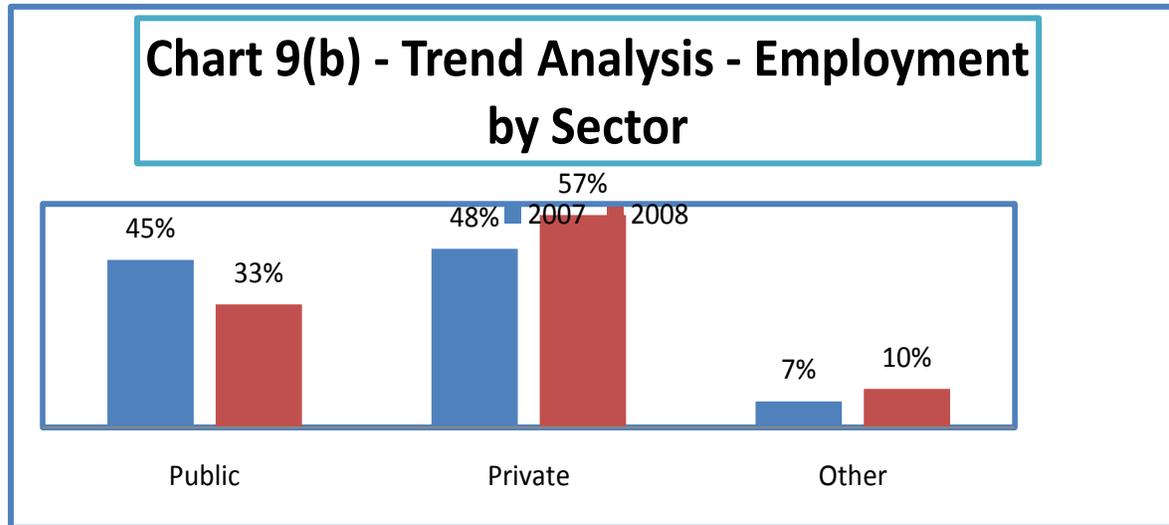


Figure 20. Trend analysis- Employment

The National Census Report, 2000, also reflects in Table 14 areas in which youth are trained and are utilising their skills and knowledge gained from tertiary education. Also, Table 15 reports that more than 82% of the employed youth found work in private enterprise. In percentage terms, more than 80% of the employed of each sex worked in the Private Sector (84% females and 81% males). Government employed about 10 % of the working youth and 5% were self employed. There were twice as many self- employed males as females- 590 compared to 264.

Table 14. Population 15 Years and Over with Completed Training by Occupational Group for Which Trained: 2000

Occupational Group	Male		Female	
	Number	%	Number	%
Total	29,929	100.0	26,616	100.0
Senior Officials and Managers	1,925	6.43	1,653	6.21
Physical, Computing and Engineering Science Technicians and Professionals	3,414	11.41	931	3.50
Life Science and Health Associate Technicians and Professionals	908	3.03	3,695	13.88
Teaching Professionals	1,105	3.69	2,435	9.15
Other Associate Technicians and Professionals	2,626	8.77	2,705	10.16
Clerical Workers, Sales and Service Occupations	915	3.06	6,053	22.74
Personal and Protective Service Workers	2,905	9.71	4,412	16.58
Shop Assistants and Market Traders	46	0.15	238	0.89
Skilled Agricultural and Fishery Workers	240	0.80	56	0.21
Extraction and Building Trades Workers	7,901	26.40	207	0.78
Metal, Machinery and Electricity Trades Workers	4,482	14.98	135	0.51
Precision, Handicraft, Printing and Other Related Trades Workers	386	1.29	334	1.25
Other Craft and Related Trades Workers	641	2.14	2,105	7.91
Industrial Plant Operators	29	0.10	9	0.03
Stationary Machinery Operators and Assemblers	452	1.51	412	1.55
Drivers and Mobile Machinery Operators	382	1.28	20	0.08
Labourers	96	0.32	43	0.16
Not Stated	1,476	4.93	1,173	4.41

Table 15. Employed Youth Population by Sex, Age Group and Employment Status: 2000

Sex and Employment Status	Total Youth		Age Group of Youth			
	Number	%	15-19		20-24	
			Number	%	Number	%
Total Employed	15,937	100.0	4,057	100.0	11,880	100.0
Employees	15,083	94.64	3,890	95.88	11,193	94.22
Government	1,669	10.47	246	6.06	1,423	11.98
Private Enterprise	13,132	82.40	3,569	87.97	9,563	80.50
Private Household	282	1.77	75	1.85	207	1.74
Self Employed	854	5.36	167	4.12	687	5.78
Male Youth	8,886	100.0	2,447	100.0	6,439	100.0
Employees	8,296	93.36	2,322	94.89	5,974	92.78
Government	910	10.24	141	5.76	769	11.94
Private Enterprise	7,205	81.08	2,126	86.88	5,079	78.88
Private Household	181	2.04	55	2.25	126	1.96
Self Employed	590	6.64	125	5.11	465	7.22
Female Youth	7,051	100.0	1,610	100.0	5,441	100.0
Employees	6,787	92.26	1,568	97.39	5,219	95.92
Government	759	10.76	105	6.52	654	12.02
Private Enterprise	5,927	84.06	1,443	89.63	4,484	82.41
Private Household	101	1.43	20	1.24	81	1.49
Self Employed	264	3.74	42	2.61	222	4.08

What is the Role of Tertiary Education in Enabling the Medium- to Long-Term Vision for Barbados?

The medium- to long-term strategy document for Barbados notes that one of the goals is to increase the annual sustainable growth rate. It was envisioned that this could be achieved via:

- substantially increasing output in the tradable sectors (tourism, international business and financial services, manufacturing, as well as agriculture and fisheries);
- creating new export services in culture, sports, education, professional services, construction services, computer services and health services;
- developing a new culture of entrepreneurship and cadre of local business entrepreneurs;
- creating the information architecture, infrastructure and human resources capacity for the information economy;
- establishing Barbados as a research and development centre in science and technology; and,
- enrolling 80 percent of persons of age 18-30 in tertiary education by 2025;

In order to identify what would be the characteristics of the labour force that would enable the vision outlined above it is first necessary to look at the current characteristics of the employed labour force. Table 16 (a) provides a breakdown of the employed labour force by industry as at June 2011, while Table 16 (b) provides a disaggregation by occupational classification.

Table 16. (a)Employment by Industry and Sex

	Male	Female	Both Sex
Agriculture, Forestry & Fishing	2.8	1.5	4.3
Construction, Mining & Quarrying	12.4	1.0	13.4
Manufacturing	5.5	2.6	8.1
Elec. Gas, Steam, Water & Air Conditioning Supply	1.9	1.0	2.8
Wholesale & Retail Trade	8.4	11.8	20.2
Transportation & Storage	6.8	2.1	9.0
Accommodation & Food Services	5.0	8.6	13.6
Finance & Insurance	2.1	4.0	6.1
Professional, Scientific & Technical Services	2.2	1.9	4.1
Administrative & Support Service	4.8	3.7	8.5
Public Administration & Defence	4.9	4.5	9.4
Education	2.1	4.5	6.6
Human Health & Social Work	1.7	5.1	6.8
Other Services	1.1	2.7	3.8
Activities of Households as Employers	0.8	3.9	4.7
Other Groups	2.8	3.2	6.0
Not stated	0.4	0.1	0.5
Total	65.7	62.2	127.9

Source: Statistical Service Labour Force Survey

Table 16 (B): Employment by Industry and Sex

	Male	Female	Both Sex
Legislators, Senior Officers	4.5	4.8	9.3
Professionals	4.9	8.6	13.4
Technicians & Associate Professionals	8.4	7.3	15.7
Clerks	2.3	12.5	14.9
Service Workers/Shop Workers	7.8	16.0	23.8
Skilled Agriculture Workers	4.0	0.8	4.7
Craft and Related Workers	13.1	1.1	14.2
Plant & Machine Operators & Assemblers	7.2	1.0	8.2
Elementary Occupations	13.4	9.8	23.2
Not Stated	0.1	0.3	0.5
Total	65.7	62.2	127.9

Source: Statistical Service Labour Force Survey

In order to envision the likely skills required, we can use an approach similar to that outlined by Lewis (1951) in his seminal article on the industrialisation of the Caribbean. The conceptual approach used in the article was to first identify the vision for the region in relation to job generation and then solve, based on the characteristics of the region, the economic characteristics that would support this vision.



Figure 21: Model of Education-Economic Interaction

In this model, we use a similar approach. If we assume “substantially” implies doubling of output in targeted sector, conservatively this would imply that 50 per cent more labour resources would be required. From an industry perspective, this implies that employment increase in the following industries of:

- agriculture, forestry and fishing (2150 persons)
- manufacturing (4050 persons)
- accommodation and food services (6800 persons)
- professional, scientific and technical services (2050 persons), and
- finance and insurance (3050 persons).

The above calculation therefore suggests that if the island is to achieve its development targets, total employment in the above industries would have to rise by 18,100 persons between now and 2025, or about 1300 persons per year. It is anticipated that more of these jobs would be in professional, technical, and other similar categories. Therefore, it is recommended that the funding to the tertiary education sector should be increased and

allocated for studies in the areas identified above. This financial support will allow the tertiary education sector to meet the 80 percent target of persons of age 18-30 either enrolled in or having tertiary education by 2025.

5% Social Amenities Fee

- The Cave Hill Campus has implemented successfully a Social Amenities Fee Programme. This was approved by University Council following the government of Barbados decision to pay for the “academic cost” component within the economic cost of degrees, urging the university to discern and isolate “social costs” for student payment. The Amenities Fee currently represents about 2-3% of the economic cost of the degrees. This fee has allowed for the funding of :
 - (a) a sport revolution
 - (b) infrastructure modernisation
 - (c) co-curricular culture
 - (d) comprehensive health care
 - (e) debating exposure
 - (f) internationalism in student culture

The Social Amenities Fee has transformed student and University life at Cave Hill. We suggest that this fee be fixed at 5% of economic cost of programmes, and be paid by all students, and applied to all tertiary institutions. This adjustment to the funding policy will fund institutional modernisation across the sector, and transform the quality of the learning environment. All campuses are in need of modern sporting and cultural facilities. This we suggest is the way to fund the modernisation of the institutions.

10% Private Sector Investment

- It is necessary to engage directly the Private Sector into the funding model as a primary beneficiary of the public investment. While the Private Sector may very well say that corporate taxes represent its direct contribution to state funding, it should be stressed that emphasis would be paid to direct investments in the sector. A Private Sector fund for tertiary education can be used to deliver specific programmes that are industry linked. Such specific industry related programmes can be in telecommunications, tourism, finance and banking, insurance, aviation and shipping, etc. These programmes could be funded by an industry sector or by a firm. Tax credits mechanisms and other fiscal incentives can be used to enhance this strategy.
- Of note, are the significant Private Sector investments in the modernisation and expansion of the Cave Hill plant, and programme diversity. It is now possible to take these ad hoc investments and place them within a coherent variable that fits into the revised funding model.
- The institutionalization of a Private Sector tertiary element in the national Funding model brings sophistication to the participation required to sustain the tertiary sector for the 21st century and beyond.

Conclusion: At-A-Glance Synopsis

AT- A- GLANCE: Synopsis of Alternative Funding Models and Significant Recommendations for Tertiary Education Reform in Barbados

In conclusion, the committee is pleased to present, At-A-Glance, a synopsis of the significant proposals that should inform a conversation on the reform of tertiary education in Barbados. Many recommendations are recorded in this document but those highlighted below relate directly to a new funding model as well as to suggestions for the synergistic functioning of a networked tertiary education system in Barbados. The proposals are by no means exhaustive. Rather, it is hoped that those mentioned below will stimulate and produce many more valuable suggestions for tertiary reform in Barbados.

This committee examined the funding alternatives and the reform agendas for the financing mechanisms presented by countries such as: Singapore, Hong Kong, India, United Kingdom, China, Australia, Mexico, Canada, Trinidad and Tobago, Belize, and St Lucia. Many of these models described are states that fully fund tertiary education. Most countries where the state fully funds tertiary education do so “at the point of use”. This means that students would access tertiary education without paying the economic cost of tuition while studying. Rather, tuition and associated costs would be repaid after studies have been completed.

In order to ensure the financial sustainability of tertiary education and diversify the funding model the following recommendations are proposed:

- Changes in tax policies to allow for the collection of special education taxes from the Private Sector toward the creation of a pool of education funds should be considered;
- A percentage of the Government’s Training fund, already in existence, should be amended to allow for the establishment of a Training and Education fund;
- The Government should project for the allocation of full financial support for 18, 100 persons by 2025. This will allow the tertiary education sector to meet

the 50 percent target of persons of age 18-30 either enrolled in or having tertiary education by 2025;

- Education grants should be made available to students whose circumstance would prohibit the covering of any upfront costs and allowances. A specified amount could be provided to be used at the chosen tertiary institution The UWI, BCC, ETTC or SJPP. Performance and attendance should determine continued allocations or disbursement of the grant;
- Persons should be trained before entry into the classroom. This would alleviate the need to pay salaries of teachers who are working while studying at ETTC;
- Tertiary institutions should be encouraged to engage in self-generating income enterprises such as: research and consultancy, sale of training services or rental of facilities;
- Five percent (5%) of economic cost as a Social Amenities fee should be introduced for all tertiary educational institutions allowing for flexible payment options by students;
- All institutions should seek to target the alumni in order to obtain assistance with regard to “soft” operational issues while leaving the capitalizing of the physical plant to state and other institutional funding;
- Given the tremendous benefits of tertiary education to the growth and development of the private sector in Barbados, a system of cost-sharing could be considered for implementation. This model of financing education could reflect the following funding allocations:
 - 85% contribution by Government
 - 10% contribution by private sector
 - 5 % contribution by the consumer;

- The lack of wider articulation agreements between and among the four public tertiary educational institutions has prevented a seamless transition at the institutional and programmatic levels and further, between the academia and the technical vocational education and training level. This is particularly worrisome since there is frequent interaction among staff at the various institutions, not just for meetings and discussions at the managerial level, but also at the instructional level where the staffs teach part time at each other's institution. Formal articulation agreements should be made;
- The economic cost of education to successive governments is high given the need for students on entry to The UWI to repeat some courses/programmes of study taken for example, at the Barbados Community College. Improved efficiency could be achieved by minimising the repetition in the tertiary system. During the articulation discussions between BCC and The UWI in the 1990s it was agreed that in determining equivalency, 60% overlap was sufficient for equivalency and emphasis would be placed on the skills to be acquired rather than the content of a particular course. Such discussions should continue toward formal working agreements;
- The foundation and advanced science courses (N1 & N2 now termed preliminary and introductory science) should be taught at the Barbados Community College rather than at The University of the West Indies and allowed for transfer of credit to The UWI;
- Lack of information on equivalency of programmes/courses has impacted on the articulation process. Discussions should be formalised toward mutual agreements;
- "Territorial firewalls" can easily prevent the institutions from benefiting from a synergistic working relationship. Therefore, the existence of any such "firewalls should be avoided and/or removed;

- A coordinated network system, similar to that of the United States of America, where the publicly funded community colleges and universities are legally or voluntarily linked to allow transfer of credits should be adopted in Barbados;
- There is need to ensure that students are given educational options which will allow them to mature socially, emotionally and intellectually prior to entry at the university level and as such, the support for 6th form education must be underscored. More options will also eliminate the continued requests for university admission of students at the low matriculation level since this could impact on the quality of graduates leaving The UWI;
- Life coping skills such as critical thinking, independent thought, communication and self-learning must be incorporated into the secondary curriculum so that students are allowed to hone these competencies prior to entry at the tertiary level;
- With the implementation of the Free Movement of CARICOM nationals coupled with the increased access to tertiary education globally, there is an influx of qualifications being presented to the Council by nationals and non-nationals. The absence of a National Qualifications Framework makes it increasingly challenging to evaluate foreign-based qualifications to local awards. Such a National Qualifications Framework should be finalised;
- The evaluation of local to local awards needs to be undertaken after a National Qualifications Framework is put in place;
- Programmes/courses of study offered at the same level by tertiary educational institutions and even within institutions vary in terms of credits, content and duration. This needs to be regularised;

- The Associate Degree or 2+2 model, that is- 2 years at the college level and two years at The UWI , should be used as the benchmark for matriculation into a 3 year degree programme;
- Within 5 years, there should be an upgrade in the capacity available at the post CSEC level to avoid The UWI having to accept students of low matriculation status. This step would also reduce the costs to the government;
- Where prospective students do not meet the normal matriculation requirements, they should seek entry to the relevant Associate Degree programme at the Barbados Community College in order to meet the entry requirements for The UWI;
- The Samuel Jackman Prescod Polytechnic should be transformed to focus on science and technology with linkages to the science programmes at The UWI;
- Institutions should seek to standardize their programmes/courses of study in preparation for the implementation of the National Qualifications Framework;
- A National Articulation and Equivalency Advisory Commission should be established with a mandate for oversight of the development and implementation of a networked tertiary education system which has vertical and horizontal linkages to facilitate the transfer of credits and seamless transition of students. The synergistic functioning of the tertiary education institutions in Barbados should be the main focus of this Commission; and
- The National Articulation and Equivalency Advisory Commission should fall under the aegis of the Barbados Accreditation Council.

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Appendices

APPENDIX 1: List of Registered Providers as at December 30, 2011

No.	Name of Provider	Place of Operation	Educational Focus
1.	Ace Academy	Bank Hall Main Road, St. Michael	CXC subjects
2.	Advantage Caribbean Institute Limited	1 st Floor, Nation Publishing Company Annex, Nation House, Fontabelle, St. Michael	Information Technology Professional Vendor Certification Programmes
3.	Allied Health Institute	Whitehall Main Road, St. Michael	Care for the Elderly
4.	BAG Consulting	#226 Croton Close, St. Philip	Occupational Safety and Health
5.	Barbados Civil Aviation Training Centre	Charnocks, Christ Church	Wide range of subjects in Aviation
6.	Caribbean Institute for Meteorology and Hydrology	Husbands, St. James	Meteorology and Hydrology
7.	Caribbean Centre for Conflict Management	Suite No. 1. No.31 George Street, Belleville, St. Michael	Foundational and Advanced Mediation Practices
8.	Dermatological Institute	#1, 10 th Avenue, Belleville, St. Michael	Dermatology
9.	Insurance Institute of Barbados	Letchworth Complex, Garrison, St. Michael	Insurance
10.	International Career College Inc.	Tradewinds House The Garden, St. James	Aesthetics
11.	Mag's Barber and Beauty Salon	Gertz Plaza, Collymore Rock, St. Michael	Cosmetology
12.	Media Resource Department, Ministry of Education and Human Resource Development	Elsie Payne Complex, Constitution Road, St. Michael	Educational/Learning Resources
13.	Notes of Praise Inc.	Nazarene Tabernacle, Eagle Hall, St. Michael	Gospel Music
14.	Peace Haven Holistic Therapy School Inc.	#80 Welches Terrace, St. Thomas	Holistic Therapy

No.	Name of Provider	Place of Operation	Educational Focus
15.	Personal Body Health Care Clinic and School of Holistic Therapies	1A Endeavour Plantation, Endeavour, St. Thomas	Holistic Therapy
16.	Pinnacle Safety Solutions	Lot B, Apartment 3, Clermont, St. James	Occupational Safety and Health
17.	Professional Security Training College	Coles Building, Lower Bay Street St. Michael	Security Training
18.	Professional Training Services	Building #2, Harbour Industrial Estate, Harbour Road, St. Michael.	Human Resource Development
19.	REA EnviroHealth International	"Laureston", No. 18, 7 th Avenue, Belleville, St Michael	Occupational Safety and Health
20.	Regional Management Services Inc.	#62 Free Hill, Black Rock, St. Michael	Human Resource Development
21.	St. James Secondary School Continuing Education	Trents, St. James	Continuing Education
22.	The Codrington Language Centre	"Red House", Golf Club Road, Christ Church	Foreign Languages
23.	The Maritime Institute	3 rd Floor, Mall #34, Broad Street, St. Michael	Professional Maritime
24.	The University of the Southern Caribbean		Multiple general courses Undergraduate degree in Elementary Education
25.	The University of the West Indies, Cave Hill Campus	Cave Hill, St. Michael	Wide range of subjects in a range of disciplines leading to undergraduate and postgraduate qualifications
26.	The University of the West Indies, Open Campus	Cave Hill, St. Michael	Wide range of subjects in a range of disciplines leading to undergraduate and postgraduate qualifications

APPENDIX 2- LIST OF BCC PROGRAMMES

The programmes offered by the Barbados Community College are:

- Bachelor's Degree
 - Technical/Vocational Education
 - Fine Art
 - Graphic Design
 - Tourism and Hospitality Management jointly with UWI (in a two-plus-two arrangement)
- Post-graduate Diploma in Technical Vocational Education

- Associate Degree in
 - Accounting
 - Agriculture
 - Alternative Energy Systems
 - Architectural Studies
 - Biology
 - Building, Civil Engineering and Construction
 - Business Studies
 - Chemistry
 - Computer Studies/Computer Science
 - Culinary Arts
 - Dance
 - Economics
 - Electrical Engineering
 - Electronic and Computer Engineering
 - English
 - Environmental Health Inspection
 - Environmental Science
 - Fashion
 - Finance and Investment.
 - Fine Art
 - Foreign Languages for Hotel Personnel in Cooperation with the Hospitality Institute (French, German, Italian, Spanish)
 - General Nursing
 - Geography
 - Government and Politics

- Graphic Design
 - Health Information Management
 - History
 - Hospitality Studies
 - Information Technology
 - Land Surveying
 - Languages for Business & Tourism (French, German, Italian, Spanish)
 - Languages with Themes (French, Spanish)
 - Law
 - Marketing
 - Mass Communication
 - Mathematics
 - Mechanical Engineering
 - Medical Laboratory Technology
 - Music
 - Office Management and Administration
 - Pharmacy
 - Physical Education
 - Physics
 - Product Design and Development
 - Psychiatric Nursing
 - Psychology
 - Public Administration and Management
 - Social Work
 - Sociology
 - Sports Management
 - Theatre Arts
 - Tourism and Travel
- Certificate Programmes in:
 - C, C++ Programming
 - Chinese, French, German, Italian, Japanese, Portuguese, Spanish
 - Computer Communications and Networking
 - Computer-Aided Transcription (CAT)
 - Creative Writing
 - Customised programmes as requested by Government and private sector agencies
 - Data Warehousing

- Database Management Design
- English as a Foreign Language
- Fashion Design
- General Catering
- Library Sciences
- Multimedia Applications
- Mutual Funds
- Nursing Assistant
- Para-Legal Studies
- Pre-Health Sciences
- Secretarial Studies
- Southern Chef Apprentice Programme in conjunction with the American Culinary Federation, Barbados Vocational Training Board and the Barbados Hotel Tourism Association
- Specialised on- or off-site programmes (French, German, Italian, Spanish)
- Various Hospitality and Tourism related subjects
- Visual Basic
- Web Page Authoring
- Diploma Programmes in
 - Midwifery
 - Community Health Nursing
 - Health Informatics
 - Public Health Administration
 - Mental Health Nursing
 - Inspection in Meat and Other Foods

APPENDIX 3- Statistics showing Erdiston College's students who are registered with The UWI

Name of Programme	2000 – 2001										Average Age Range
	Students Enrolled	Male	Female	Withdrawn	Referred	Fail	Graduates	Male	Female	Resits	
Two Year In-Service ¹	31	3	28	0	11	0	17	9	8	0	30-34
Vocational Teachers' In-Service Training Programme In Adult Education	13	9	4	0	0	0	18	14	4	5	35-39
Diploma in Education Secondary ²	0	0	0	0	0	0	0	0	0	0	0
Certificate in Educational Management and Administration ²	0	0	0	0	0	0	0	0	0	0	0

Name of Programme	2001 – 2002										Average Age Range
	Students Enrolled	Male	Female	Withdrawn	Referred	Fail	Graduates	Male	Female	Resits	
Two Year In-Service ¹	62	9	53	0	0	0	5	0	5	5	30-34
Vocational Teachers' In-Service Training Programme In Adult Education	11	7	4	0	0	0	11	7	4	0	35-39
Diploma in Education Secondary ²	0	0	0	0	0	0	1	0	1	1	0
Certificate in Educational Management and Administration ²	0	0	0	0	0	0	1	1	0	1	0

¹ - Two Year In-Service was a two year programme

² - Course not offered due to the Education Sector Enhancement Programme

Name of Programme	2002 – 2003										Average Age Range
	Students Enrolled	Male	Female	Withdrawn	Referred	Fail	Graduates	Male	Female	Resits	
Two Year In Service	62	9	53	0	5	0	48	6	42	0	30-35
Vocational Teachers' In-Service Training Programme In Adult Education	16	13	3	0	0	0	16	13	3	0	>39
Diploma in Teaching ^{3 *}	32	3	29	0	0	0	0	0	0	0	35-39
Diploma in Education Secondary	63	21	42	4	9	1	49	15	34	0	35-39
Certificate in Educational Management and Administration	37	16	21	4	4	1	28	12	16	0	>39

Name of Programme	2003 – 2004										Average Age Range
	Students Enrolled	Male	Female	Withdrawn	Referred	Fail	Graduates	Male	Female	Resits	
Associate Degree in Education ^{4 *}	43	10	33	0	0	0	8	1	7	8	30-34
Vocational Teachers' In-Service Training Programme In Adult Education	10	5	5	0	0	1	9	4	5	0	30-34
Diploma in Teaching ³	32	3	29	0	6	3	23	2	21	0	35-39
Diploma in Education Secondary	43	9	34	2	1	0	40	11	29	0	35-39
Certificate in Educational Management and Administration	39	10	29	1	1	0	35	9	26	2	>39

- ³ - Diploma in Teaching was a two year programme (2002 – 2004)
⁴ - Associate Degree in Education began in 2003 and is a two year programme
* - New programme

Name of Programme	2004 – 2005										Average Age Range
	Students Enrolled	Male	Female	Withdrew	Referred	Fail	Graduates	Male	Female	Resits	
Associate Degree in Education	43	10	33	1	13	10	19	4	15	0	30-34
Vocational Teachers' In-Service Training Programme In Adult Education	8	8	0	0	0	0	8	8	0	0	>39
Diploma in Education Secondary	28	7	21	0	0	0	28	7	21	0	35-39
Certificate in Educational Management and Administration	21	8	13	1	3	2	15	6	9	3	>39

	2005 – 2006										Average Age Range
	Students Enrolled	Male	Female	Withdrew	Referred	Fail	Graduates	Male	Female	Resits	
Associate Degree in Education	58	16	42	0	0	0	9	2	7	9	30-34
Vocational Teachers' In-Service Training Programme In Adult Education	10	9	1	0	0	1	9	8	1	0	35-39
Diploma in Education Secondary	43	7	36	0	1	2	40	7	33	0	30-34
Certificate in Educational Management and Administration	21	10	11	0	5	1	15	5	10	1	>39

Name of Programme	2006 – 2007										Average Age Range
	Students Enrolled	Male	Female	Withdrawn	Referred	Fail	Graduates	Male	Female	Resits	
Associate Degree in Education	58	16	42	1	8	15	34	10	24	0	30-34
Vocational Teachers' In-Service Training Programme In Adult Education ⁵	0	0	0	0	0	0	0	0	0	0	0
Diploma in Education Primary *	40	3	37	0	3	2	35	17	18	0	30-34
Diploma in Education Secondary	37	19	18	0	1	2	35	17	18	1	30-34
Certificate in Educational Management and Administration	41	7	34	1	1	7	32	4	28	0	>39

Name of Programme	2007 – 2008										Average Age Range
	Students Enrolled	Male	Female	Withdrawn	Referred	Fail	Graduates	Male	Female	Resits	
Associate Degree in Education	45	13	32	0	0	0	9	1	8	9	25-29
Vocational Teachers' In-Service Training Programme In Adult Education	11	4	7	0	0	3	8	2	6	0	35-39
Diploma in Education Primary	47	3	44	0	2	3	44	3	41	2	30-34
Diploma in Education Secondary	53	11	42	1	2	5	45	8	35	0	35-39
Certificate in Educational Management and Administration	44	5	39	0	2	6	37	3	34	1	>39

³ - Programme not offered this year

* - New programme

Name of Programme	2008 – 2009										Average Age Range
	Students Enrolled	Male	Female	Withdrew	Referred	Fail	Graduates	Male	Female	Resits	
Associate Degree in Education	45	13	32	2	6	2	37	12	25	2	25-29
Vocational Teachers' In-Service Training Programme In Adult Education	10	7	3	0	0	0	11	8	3	1	35-39
Diploma in Education Primary	78	14	64	0	3	2	81	14	67	8	25-29
Diploma in Education Secondary	46	9	37	0	2	4	43	10	33	2	30-34
Certificate in Educational Management and Administration	58	18	40	1	4	14	43	15	28	3	>39

Name of Programme	2009 – 2010										Average Age Range
	Students Enrolled	Male	Female	Withdrew	Referred	Fail	Graduates	Male	Female	Resits	
Associate Degree in Education	62	20	42	1	0	0	4	1	3	4	30-34
Vocational Teachers' In-Service Training Programme In Adult Education	4	0	4	0	0	0	5	1	4	1	35-39
Diploma in Education Primary	96	19	77	1	5	3	89	16	73	3	30-34
Diploma in Education Secondary	29	6	23	0	6	2	21	4	17	0	30-34
Diploma in Education Secondary (Evening) ⁶	18	5	13	0	0	4	14	3	11	0	30-34
Certificate in Educational Management and Administration	50	11	39	0	6	8	44	10	34	8	>39

⁶ - Diploma in Education Secondary (Evening) was introduced by Erdiston College in 2009