



NIHERST

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**DESIGN OF A SEAMLESS SYSTEM OF EDUCATION
AND TRAINING IN TRINIDAD AND TOBAGO
– NIHERST POSITION PAPER**

June 20th, 2004

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Executive Summary

The major goal of establishing a seamless education and training system is the creation of the procedures, policies, conventions and arrangements within and between the various levels in order to facilitate personal and career development. Succinctly put, the accent is on creating the conditions that facilitate an inclusive approach to human resource development that takes cognisance of special needs, talents, different learning styles, and socioeconomic circumstances in a context in which high standards are set for all students.

The paper consistent with the terms of Reference addresses seamlessness in its major multiple dimensions – curricula, instruction, assessment, quality assurance, information systems and research requirements, accountability, governance, management, legal frameworks and teacher training both as inputs as well as outputs. Within and across levels in the system is a key facilitative mechanism in the achievement of seamlessness. The Paper recognises this important element is informed by the understanding that effective articulation in the education and training system requires coordinated action in the many critical subsystems that constitute the overall system.

The challenge of seamlessness in the education and training system is a large one that necessitates for effective treatment fresh perspectives and reforms at the various levels of the system. This treatment must be part of a coordinated and collaborative approach to planning and development in order to ensure shared understanding of the requirements for improved educational quality, articulation and accountability.

The Paper addressed this complexity through the use of an input/output model which facilitates understanding of the nature and scope of the requirements from the pre-school to the tertiary levels. This, together with the basically descriptive treatment of the existing levels of the system and attendant recommendations lie at the heart of the Paper's intent.

This approach has enabled the authors to identify the many impediments in the system to achieving the goal of seamlessness at both the macro and the micro level of its operations. It also recommends the many coordinated steps that must be taken at the various levels of the system in order to make the system more responsive to the needs of citizens and to improve its quality.

Not unexpectedly, therefore, the Paper, therefore, pays considerable attention to performance outcomes and the associated support systems and legal frameworks needed for more effective system. In order to assist in the operationalisation of the Paper,

recommendations were provided for each level of the system. These are complemented by the following general recommendations which treat with issues common to all levels.

Finally, the Paper recommends, as the way forward, the creation of a Task Force on Seamless Education and Training charged with the mandate of preparing both a strategic and implementation plan required for the implementation of a seamless system of education and training in Trinidad and Tobago.

Preamble

The National Institute of Higher Education, Research, Science and Technology (NIHERST) was requested by the Ministry of Science, Technology and Tertiary Education to submit a position paper on the “**Design of a Seamless System of Education and Training in Trinidad and Tobago**”. NIHERST then commissioned Dr Alvin Ashton, former Vice President for Higher Education and now a Consultant at NIHERST and Mr Lloyd Pujadas, former Director of Curriculum Development in the Ministry of Education, to prepare this paper. It is to be noted that Dr Ashton was Deputy Chairman and Mr Pujadas, a member, of the Working Committee, a sub-committee of the Steering Committee appointed by Cabinet to consider the establishment of a seamless system of education and training in Trinidad and Tobago.

The authors of this paper take full responsibility for the contents of this paper. However, they readily acknowledge their debt to the members of both the original Steering and Working Committees (see Attachments I and II) whose work informed much of the thinking and views reflected in this position paper. Unfortunately, the Committees did not submit a final Report. This submission by NIHERST is intended to fulfil the mandate of the Steering Committee.

This paper/report addresses the Terms of Reference of the Steering Committee (see Attachment I). It is structured as follows:

1.0 Introduction

1.1.0 Background – Terms of Reference and Approach

1.2.0 Concept of a seamless system of education and training

1.3.0 Rationale/context of a seamless system of education and training

2.0 Main Elements of a Framework for a Model Seamless System of Education and Training

3.0 Evaluation of the existing situation at each of the five levels of the education system

4.0 Core issues/challenges facing the design, implementation and evaluation of a seamless system for education and training in Trinidad and Tobago

5.0 Recommendations – the Way Forward

1.0 Introduction

Cabinet, by Minute No.1278 of June 27, 2002, agreed to the establishment of a Steering Committee to Design a Seamless System of Education and Training in Trinidad and Tobago.

1.1.0 Background – Terms of Reference and Approach of the Committee to its remit

1.1.1 The Committee was given the following Terms of Reference:

- (i) to identify the critical elements of a seamless national education and training system from early childhood up to the tertiary level;
- (ii) to evaluate the current status of each level of the education system with respect to capacity, relevance and quality as they relate to Government's policy directives and social and economic development goals;
- (iii) to identify the gaps and weaknesses in existing operations that need to be addressed to facilitate the development of a seamless education system;
- (iv) to review the policy framework which governs existing operations of education and training institutions and make recommendations on such policies that would facilitate the establishment of a seamless education system;
- (v) to advise on concrete measures to be adopted to give effect to the implementation of a seamless education system;
- (vi) to assess the adequacy of the regulatory frameworks which govern the various levels of education in order to support the establishment of a seamless education and training system;
- (vii) to assess existing practice as it relates to quality assurance at all levels of the education and training system;
- (viii) to determine the extent to which programme offerings, particularly at the tertiary level, are consistent with recommendations at the regional level for the establishment of a seamless education, training and accreditation system; and
- (ix) to address any such issues which, in the judgement of the Committee, are central to the establishment of a seamless education and training system.

1.1.2 By the same Cabinet Minute No.1278 of June 27, 2002, Cabinet agreed to the appointment of a Working Committee (see Attachments I and II for membership of the Steering and Working Committees) as a Sub-Committee of the Steering Committee.

What follows is the NIHERST Position Paper on the Design of a Seamless System of Education and Training which has been largely informed by the deliberations of that Working Committee.

At its initial meetings, the Seamless Working and Steering Committees devoted a great deal of time in:

- discussing the concept of ‘seamlessness’ and what a seamless system means in its many interrelated implications;
- attempting to arrive at a consensus on their interpretation of the Terms of Reference;
- determining the research and other requirements for accomplishing the assignment;
- determining the nature, complexity and scope of what was required if the Terms of Reference of the remit were to be adequately addressed.

1.1.3 As a consequence of its deliberations in these preliminary meetings and discussions, the Working Committee decided to:

- ◆ limit its Report to general observations, conclusions and recommendations with respect to its mandate because it discovered that necessary data and information were unavailable to it and that the Committee did not have the time and human resources (including research capability) required to address completely and meaningfully all aspects of its Terms of Reference;
- ◆ advise Cabinet through its Report, of what is required both before a ‘seamless system of education and training’ could be designed and then what the design process itself would entail;
- ◆ submit a Report which, in their opinion, would contain the essential issues to be considered and the key elements which must be included in designing a seamless system.

However, the Committee did not complete its task. The authors were then requested to prepare this position paper.

1.2.0 Concept of a seamless system of education and training

1.2.1 “Seamlessness” refers to the openness and responsiveness of the various sectors/levels of education and training to individuals from a range of educational backgrounds in ways that facilitate personal and career development. A seamless education system is one in which each sector, while maintaining its distinctive purposes, has multiple points of entry and exit made possible by policies, procedures and legal frameworks which facilitate movement across and between the various levels and types of education and training provision and which facilitates lifelong education. It is not one that is without seams. Rather it is one that smooths or flattens the seams in the dividing lines between the different sectors/levels of the education and training system.

1.2.2 A seamless system caters for the diverse learning needs of individuals, recognises achievement and provides the necessary conditions for value to be added to the formal and informal educational and work experiences of learners/students. Developing a seamless system requires mechanisms to document, recognise and validate prior learning in order to facilitate student mobility and to enable education providers to recognise achievement in its many forms. As a result, individuals are likely, then, to be better able to achieve their full potential and the education system will be also better able to provide the right type of output required for business, industry and responsible citizenship.

1.3.0 Rationale/context of a seamless system of education and training

1.3.1 Government’s decision to establish a seamless system of Education and Training in the country is a clear indication of its recognition that no country can make significant economic and social progress without a truly well-educated people. Equally important is the understanding that the viability and continuity of the society depend largely on its ability to transmit the fundamental values of a civil society to each new generation through the incorporation of all citizens in this enterprise.

1.3.2 The increasingly open global economy and this country’s determination to achieve developed country status in two decades are challenges which necessitate that increased emphasis be placed on the systematic development of our human capital in the context of lifelong learning from the early childhood to the tertiary level. Such development must be based on shared commitment to the view held in the society as a whole that everyone belongs and everyone deserves a chance in order to develop to his/her fullest potential.

1.3.3 Providing the supportive educational ethos and larger societal context to achieve this goal requires far-reaching reform of the country’s education system which currently works as separate parts with no clear philosophy and related policies to inform educational activity at the various levels. This situation is exacerbated by the fact that the existing legal framework governing education and training in the country is outdated and does not adequately address current realities nor the aspirations inherent in the vision for the development of the

society that speaks to education and training, particularly at the tertiary level. There is, therefore, an obvious need to put in place the legal framework or frameworks that can provide a basis for seamlessness throughout the educational system and for the necessary education reforms required. Above all such a framework is needed to guide the action of all the stakeholders whose activities and actions currently contribute to the seams in the system.

1.3.4 Developing a pre-school to tertiary level seamless system necessitates the development of a long term perspective on human resource development and a radically new view of knowledge and learning throughout our society. We need to critically examine the traditional but no longer useful distinctions between thinking and doing, knowledge and action, the academic and the vocational including the traditional ad hoc approach to addressing short-term training needs. While we must place due emphasis on prior learning achievement and work-based learning, such emphasis in a seamless system must be based on the recognition that we must educate far more Trinbagonians of all ages to new kinds and higher levels of knowledge and skills than ever before. What is required, therefore, is for more citizens of this country to have a sound basic education as a foundation for higher level studies and life long education and training. Remediation should be provided where needed but failure should not be institutionalised.

1.3.5 To meet this challenge and the others ahead, Trinidad and Tobago must create a radically different system with due consideration given to the many interrelated factors that contribute to academic achievement. Such a system must be seamless from the preschool to the tertiary level and should provide for different rates of student development with due recognition given to differences in learning styles, aptitudes, including the physically and mentally challenged. In addition, all programmes at the various levels of the system should be so designed that they are informed by national goals and objectives that hold high expectations for every student. The Programmes should also have the elasticity to meet individual developmental needs and interests in a system that provides multiple routes to personal and career development without compromising such expectations and attendant standards. The provision of multiple routes should also not be idiosyncratic and ad hoc but should be informed by a larger framework of national goals, policies, curricula, qualifications structure and programme nomenclature, as well as, quality requirements and standards. These are key elements for winning the confidence of stakeholders.

2.0 Main Elements of a Framework for a Model Seamless System of Education and Training

2.1 In this section, Section 2, the Paper addresses (i) of the Terms of Reference (see 1.1.1 above) viz:

“To identify the critical elements of a seamless national education and training system from early childhood up to tertiary level”.

In addressing the abovementioned terms of reference, the Paper, in this section, attempts to provide the framework for a model of a seamless national system of education and training from early childhood to tertiary education and which encompasses as well work-place and lifelong learning - “a cradle to grave” approach to the personal and career development of the individual.

2.2 Before proceeding with the presentation of this section, it is helpful to recall two key perspectives from which the need for serious education reform was viewed in the previous section (Section 1.3). One perspective was the economic. Faced with the formidable challenges inherent in having to compete in an increasingly open, global economy (one that is knowledge and skills-based and technology-driven), it was submitted that the economic prosperity and social well-being of both our nation and its individual citizens depended on our people being well-educated and highly skilled. The other perspective, which must not be overlooked, was the need for the moral and social values of civil society, to be assimilated by our children and transmitted from generation to generation. Values such as equity, social justice, gender equality, non-discrimination, social responsibility and the need for the participation of everyone including the mentally and physically challenged in the economic and social life of the nation must be seen as an integral part of the rationale for the development of the seamless system.

2.3 Contemplated from these two perspectives, it should be evident that changes in the existing education system are mandatory. Correspondingly, the need to establish a seamless national system of education and training from early childhood to tertiary level has now become an inescapable imperative if we are to meet both our national developmental goals and the needs of our individual citizens for personal development, and a better quality of life.

2.4 The Government of the Republic of Trinidad and Tobago is committed to the vision of creating such a system of education and training in Trinidad and Tobago – a seamless system from pre-school to primary, secondary through to post-secondary, tertiary and work-place education. This system is intended to increase educational and career opportunities for all students while simultaneously addressing human resource issues/requirements emerging from continuous economic and technological change and the need to ensure present and further economic prosperity and social well-being.

2.5 Principles of a Seamless System

The following principles inform the development, implementation and evaluation of a seamless system.

- **Equity of access to high quality education**
 For all students of Trinidad and Tobago from pre-school to primary, secondary through to post-secondary and tertiary education, provision by law must be made for a national system of education including greater opportunities for students with special education needs.
- **Co-ordinated Seamless System**
 From pre-school through post-secondary, tertiary and undergraduate education, the various levels of education must be coordinated and properly articulated.
- **Student-centred**
 Improving student academic achievement, increasing his/her opportunities for further education and employment, in other words, enabling each student to fulfill his/her full potential constitutes the very purpose and rationale for creating a seamless system of education and training. Accordingly, it should be student interest and not administrative convenience that determines instructional decision-making.
- **Quality/Standards**
 High standards of academic achievement should be set and high expectations held for student achievement and provision made for verification and maintenance.
- **Flexibility**
 The system should provide for local operational flexibility (“decentralisation”- where necessary) while promoting and insisting on accountability for student achievement and improvement. Flexibility should also be promoted by establishing multiple entry and exit points to facilitate flexible movement within and across sectors.
- **Avoiding Duplication**
 Students should not be required to duplicate work they have already successfully completed. Waste of student effort and waste of institutional resources must be avoided.
- **Providing Information**
 Clear and complete information on study opportunities and descriptive student records of prior learning should be publicly available sufficiently in advance of selection to facilitate student planning. Career guidance must be an essential part of the services of the school and/or educational institution.
- **Acknowledging Diversity**

Seamlessness should facilitate student mobility between sectors/levels (particularly in making the transition from secondary to post-secondary and tertiary levels including mobility in the technical and vocational education and training sector). Such seamlessness need not and should not compromise each sector's distinct nature and character.

- **Collaboration and Co-operation**

Collaboration and cooperation of all major stakeholders – parents, families, educational institutions, schools at all levels and in all sectors, government ministries, business, industry, labour, communities and other work-places– are needed to create an educated citizenry and workforce.

2.6.0 Conceptual Framework for a Model of Seamless Education and Training

2.6.1 It is in accordance with these principles that, based on the elements of a seamless education and training system identified below, the conceptual framework for a model of a seamless system is being proposed by the authors of this paper. In this regard, it is of particular importance to note the following:

- (i) The conceptual framework presented is to be understood as a template intended to encompass both general education and specialised technical and vocational education and training offered at all levels of the education system – from pre-school to secondary through to post-secondary and tertiary level education.
- (ii) The framework has a dual purpose. It is intended to represent not only an ideal or desired education system but also to serve as an analytical and design tool that is useful for evaluating the current status of each level of the education system and for identifying the gaps or weaknesses of the existing systems which under Terms of Reference (ii) and (iii) are to be addressed later in this Paper at Sections 3 and 4.

2.6.2 Seamlessness – As An Open System

Conceived as an open system, a seamless national system of education and training requires essential inputs, throughputs or transforming processes and expected outputs. Such a system depends on monitoring the performance of the system through both continuous (i.e formative) and summative evaluation of information and data emerging from analysis of the output/outcomes of the seamless system being implemented. It is important to bear in mind that all the elements of the proposed system – input, throughput and output elements – are interrelated and engaged in continuous dynamic interaction with one another. (See Figure 1 below).

2.6.3 What follows, expressed succinctly in narrative form, is the identification of the main elements of the inputs, throughput/processes and output/outcomes dimensions of the framework which are considered essential prerequisites for creating, implementing and sustaining an efficient and effective seamless national system of education and training.

2.6.4 Inputs Dimension of the Conceptual Framework (see Figure 1 below)

2.6.5 Integral to the design of a seamless system of education and training is that provision be made for the system to be supplied with the inputs outlined below. All the elements listed must be understood as constituting a single bundle. This bundle, in its entirety, must be considered the core inputs required for the seamless system to deliver the desired outputs/outcomes. The input elements are not ranked in any particular order of importance, but for convenience, some are grouped under particular headings. The principal elements in the inputs dimension of the framework for a model of a national seamless system of education and training are identified. (See Attachment III, Figure 1).

(i) Philosophy of Education

At the heart of the seamless system lies a national consensus and commitment shared by all stakeholders to a philosophy of education – what are the core beliefs and values we hold in Trinidad and Tobago with respect to the nature and purpose of education? What are we educating our citizens for?

(ii) National Education Goals

Undergirded by a clearly articulated philosophy of education, national education goals must be linked to national priorities for human resource development which, in turn, are anchored to national economic and social development goals as well as to the needs of the individual citizen for his/her personal development, continuing education and prospective employment.

(iii) Strategic Goals

As an important input element, goals should be formulated on both strategic and operational levels. In Trinidad and Tobago, the traditional approach to goal writing has been that of formulating broad statements of intent. An example of this style are the following goals taken from the Secondary Education Modernization Plan (SEMP). Taken from the new Secondary School Curriculum (developed under the Secondary Education Modernization Programme, a project jointly funded by the Inter-American Development Bank and the Government of the Republic of Trinidad and Tobago) are the following two education goals which may be considered goals at the strategic level:

- “provide opportunities for all students to develop spiritually, morally, emotionally, intellectually and physically”;
- “provide opportunities for self-directed and life-long learning”.

Still at the strategic level, goals may be further defined in terms of the student outcomes expected at the end of a particular level of the education system. The new secondary school curriculum, for example, has identified six outcome areas for students of secondary schools: Aesthetic Expression, Citizenship, Communication, Personal Development, Problem-solving and Technological Competence. One example in the outcome area of Citizenship should serve to illustrate how those goals are stated:

“Students should be able to situate themselves in a multicultural, multiethnic environment with a clear understanding of the contribution they must make to social, cultural, economic and environmental development in the local and global context”.

Goals, while remaining at the strategic level, may reflect national priorities, can be more narrowly focused and time-bound. Taken from “Educating America: State Strategies for Achieving the National Education Goals – 1990 Report of the Task Force on Education – National Governors’ Association, are the following examples of such a goal-setting approach:

- “By the Year 2000, All Children in America will start school ready to learn”;
- “By the Year 2000, the High School Graduation Rate will increase to at least 90 percent”.

(iv) Operational Goals

At the operational level, as milestones or benchmarks, goals are defined in terms of curriculum objectives, the student outcomes which are expected at each level of the education system for each subject area. Standards or statements of the level of student academic achievement expected of each student in each subject at each grade level are established. For example, a standard in technology education would read that, by the end of Form II, students will demonstrate the knowledge and skills required for “identifying harmful materials, avoiding negative consequences of their use and assessing the impact they may have on the environment”.

Goals, thus, are basically the outcomes or outputs for the achievement of which an education system is purposely designed. It is the pivot around which almost everything in the system revolves. For example, goals guide the development of standards and indicators used to indicate progress being made towards their attainment, the development of curricula,

teaching strategies and methods of assessment, organisational and governance structures to facilitate their attainment, the determination of the resources needed to achieve them and the basis for accountability.

It is important, therefore, that a critical requirement of a seamless system be the establishment of appropriate, realistically attainable time-bound and measurable goals for the entire system, every sector and level of the system and for every student, teacher and administrator involved in the delivery of the education product. Once these goals, these targets are clearly defined and established, all stakeholders must then be committed to their achievement, be responsible and held accountable for their attainment.

(v) Standards and Indicators

Standards are clear statements of academic achievement and/or competencies that students are expected to attain at the end of a particular course of study, programme or level of the education system. Standards indicate, in measurable terms, what each student is expected to know or be able to do. In this respect, it is similar to an objective. It belongs to the taxonomy of objectives.

Indicators must accompany the standards which have been developed for each area of study. Collected through various assessment measures, information is provided concerning the attainment, non-attainment or extent to which the accepted content standard (s) is or has been met. Indicators based on performance standards, then, constitute the evidence that tells us where we are and how far we have come in reaching the standard and/or goal.

Content and performance standards and indicators derived from the education goals are critical input elements in the framework for a seamless system.

(vi) Assessment Measures

National education goals will remain meaningless, mere rhetoric, unless progress toward meeting them is measured accurately and reliably, and reported to the public. Valid and reliable assessment and proper reporting requires the resolution of three issues:

- (1) What students need to know and be able to do must be clearly defined. (See Standards and Indicators at (v) above).

- (2) After standards have been clearly defined, it must then be determined whether students have reached the standards. Here the design of measurement instruments to collect valid and reliable data on student performance becomes critically important. National assessment of student/educational progress must be introduced in Trinidad and Tobago. Educational progress must be measured against and be compared to international levels of students' academic achievement in the different disciplines (e.g. Reading, Mathematics, Science etc) (i.e benchmarked) as well as against achievement levels in the different educational regions and individual educational institutions in Trinidad and Tobago. Accurate and reliable assessment of progress towards educational goals is based on valid and reliable measurement of student performance.
- (3) Measurements must be accurate, comparable, appropriate and constructive. Placement decisions for young children should not be made solely on the basis of standardised tests (for example, the Secondary Entrance Assessment (SEA) examination). Achievement tests must not simply measure minimum competencies, but also higher levels of reading, writing, speaking, reasoning, critical thinking and problem-solving skills. Appropriate, nationally directed research, demonstration projects, data collection and innovation should be recognised as a core set of responsibilities of the Ministries of Education and Science, Technology and Tertiary Education.

(vii) **Data/Information Requirements**

The need for information, both qualitative and quantitative, statistical and descriptive, as the basis for informed decision-making of all kinds and for reporting progress or the lack thereof, can not be over-emphasised nor exaggerated when implementing a seamless system of education and training. The provision of relevant, appropriate, necessary and reliable data is an absolutely required input. The following kinds of data, by no means exhaustive, will be needed:

- Knowledge and skills required by employers – what do employers expect graduates of high school, technical/vocational programmes, universities to know and be able to do?
- Labour market information;
- Findings of best practice research;
- Research findings on how children learn;
- Research findings related to effective schools and effective teachers – what characterises an effective school, an effective teacher?
- Models of seamless systems established in other countries;

- Reported achievements and challenges of implementing seamless systems regionally and worldwide;
- Successful applications of Information and Communication Technologies (ICT) in the field of education;
- Reports/Results of levels of student academic achievement in various countries of the world;
- Data on economic, political and technology trends at the national and international levels;
- Data on teacher qualifications in each subject area and professional training in Trinidad and Tobago;
- Proportion and identification, of trained to untrained teachers in every school – pre-school, primary and secondary – in Trinidad and Tobago;
- Tracking information on individual students from pre-school to tertiary level;
- Completion rates of students enrolling and successfully exiting each level of the education system;
- Reports from tertiary level institutions on how secondary school graduates are performing in their institutions;
- Data on students' rate of completion of tertiary level programmes and successful graduation;
- Student academic achievement disaggregated by type of school (rural, urban, denominational, government, private, ethnic group, parental level of education and socioeconomic status of parents/family);
- Number and percentage of students in pre-school;
- Information on what skills, knowledge is expected of students entering each level (primary, secondary, post-secondary, tertiary) of the system;

Finally, so that information collected and analysed can be easily accessed and used to improve educational outcomes, a proper management information system must be created for the effective implementation of the seamless system.

(viii) Curriculum

Although a seamless curriculum spanning the pre-school, primary, secondary, post-secondary, tertiary and work-based training/education levels is a necessary but not sufficient condition for establishing a seamless system of education and training, it constitutes both the fulcrum and pivot of such a system. It remains a most critical input.

Based on the philosophy of education, national education goals, results-based, standards-driven, informed by the concept and principles of a seamless system of education and training for Trinidad and Tobago, (see Sections 1.2.0 & 1.3.0 above) and utilising the relevant and necessary information/data (see Section 2.6.4 (v) above) to inform its construction, a seamless curriculum from pre-school to tertiary level must be designed, developed, implemented and continuously evaluated.

A seamless curriculum can be defined as a “ *continuum of competencies which provides transition from one level to another without unnecessary duplication. Student progression is based on the mastering of competencies to established standards*” (see Sections 1.2 and 2.5 above). Its design must be flexible, vertically and horizontally integrated and articulated and coordinated so as to allow for smooth transition from one level to another, multiple points of entry and exit and easy transfers between and across the traditional, often arbitrary boundaries separating the so-called academic and technical/vocational streams of education. It is particularly important that the existing gap between the secondary, post-secondary and tertiary levels of education be bridged through the design and development of a seamless curriculum.

(ix) Instructional Materials/Resources

Unless there is provision of adequate and appropriate instructional materials and resources (including state-of-the art educational technology-based materials) to support the delivery of the curriculum at the classroom level, the best-designed curriculum cannot and will not be effectively implemented.

(x) Provision of Resources

To meet the challenges and requirements for establishing and maintaining a seamless system adequate provision must be made for the necessary human, technical, physical and financial resources. Adequate time must also be allocated for its implementation. The seamless system requires well-trained professional staff at every level (school administrators, teachers, curriculum and supervisory personnel, etc) information systems, multimedia learning equipment and facilities and the allocation of realistic timeframes and timetable hours for assessing the achievement of the designated outcomes. Overnight changes and results cannot and should not be expected. These resource requirements naturally call for heavy financial investment in the education enterprise informed by reliable data and research in a context where a high premium is attached to accountability.

(xi) A Cadre of Professionally-Trained Teachers

Without an adequate supply of professionally well-equipped teachers, knowledgeable and competent in their subject areas and armed with sound pedagogical skills, effective delivery of the curriculum in the classroom is hardly likely to take place.

(xii) Well-Prepared Students

Often overlooked as a critical input of a seamless system is the need for every student at each level of the education system to be well-prepared from early childhood for formal schooling and to be so properly prepared at each level that he/she can cope with the academic demands of each succeeding level of the educational system. In other words, each learner must be so prepared and/or competent that his/her success at the next stage/level of their educational journey is guaranteed.

It is imperative that before entering the next stage or level each student must attain the standards set for his/her present level/stage. This means that if a student does not meet the standard(s) within the established timeframes, then remedial mechanisms must be put in place to help him/her to meet the expected performance standard.

(xiii) School/Teacher/Student/Support Systems

Support systems for schools, teachers and students at all levels in all sectors of the education system constitute another vital input in a properly functioning system aimed at producing a well-educated citizenry well prepared to meet the challenges of a knowledge-driven, technology-oriented twenty-first century. The following is a small sample of the kind of support systems required:

(a) School Support Systems include:

- strong community link with parents, local business/industry, labour and non-governmental organisations (NGO's) such as local Parent Teacher Associations, Service Clubs such as the Rotary and Lions Clubs, etc;
- strong formal and informal communication and information systems facilitating: exchange of information, ideas and experiences between schools inside and outside the school district, access to educational information data bases (local, regional, national and international), coordination of programmes, projects and other educational activities as well as for monitoring, coordinating the supervisory communication and information systems of central educational authorities;
- technical support for: principals to assist them in the effective management and administration of their educational institutions, teachers to assist them in teaching more effectively, schools to help them make the transition from central externally-based administration to school-based management and for principals in their human resource management function. Much of this technical support would be provided by curriculum officers, school supervisors, guidance officers and human resource management personnel;

- career guidance and counseling services;
- health and social welfare services;
- security and personal safety services.

(b) Teacher Support Systems include:

- continuous research-based professional and self-development programmes through an organised system of professional development aimed at continuous upgrading of their knowledge, skills and attitudes – pedagogical and content areas;
- employee assistance programmes related to stress management, domestic problems, physical and mental health problems;
- a system of incentives for teachers meeting and exceeding performance standards;
- technical support for teachers in their instructional and pastoral roles.

(c) Student-Support Systems include:

- financial help for needy students to assist them with tuition, meal and transport expenses;
- outreach programmes for students experiencing problems with parents, drugs or whose parents for one reason or another are unable to support the demands made by schools for home environments conducive to learning;
- outreach programmes to facilitate student access to early childhood schools and post-secondary and tertiary level education and training programmes in particular;
- provision of information to students to help them select appropriate curriculum offerings for careers of their choice;
- provision of information to students concerning what academic knowledge and competencies are expected of them at each level of the system, particularly at the post-secondary and tertiary levels;
- provision of remedial and/or developmental programmes to assist those students who need such help to achieve the performance standards or competencies in order to progress from one level to the next.

(xiv) Access Mechanisms

As stated earlier, a seamless system must make provision for every student to access the education system at all levels through multiple points of entry and exit. It must provide mechanisms for lifelong learning as well as the opportunities to do so. It also provides, through its flexible design, for mobility horizontally and vertically across both levels and sectors. Major access mechanisms include:

- remedial and second-chance programmes for ‘at-risk’ students, those who drop out or abandon their education at different levels of the formal education system;
- modular approaches to curriculum and course design (e.g. instructional units which are part of a larger course offering or sequence);
- a credit system which facilitates articulation among post-secondary and tertiary level programmes and which is recognised as a basis for transfer and course exemptions;
- a unified and officially accepted and recognised set of standards for each level of the system which will be the basis for logical, developmental and sequenced learning as well as a system of credits;
- the establishment of a National Accreditation Council, National Qualifications Authority and a National Qualifications (NQ) Framework to harmonise and rationalise the approach to the recognition and accreditation of all educational qualifications (viz the award of certificates, diplomas, degrees and other qualifications);
- provision of financial assistance (i.e. wholly or partly subsidised tuition and other student expenses) for those students who need such assistance to continue their education, especially at the post-secondary and tertiary levels.

(xv) Accountability System

It is not very probable that a seamless system of education and training can be efficiently and effectively implemented unless an accountability system is put in place. Key questions to be addressed by the accountability system are:

- What is the public getting for the funds it invests in education?
- How is the Trinidad and Tobago pre-school to post-secondary/tertiary level seamless education system performing in terms of educating our citizens and preparing them for the world of work?
- Who is responsible and therefore accountable for what?
- What are the consequences of failure for all who are to be held accountable at every level of the system?
- What are the performances to be measured?
- How is performance to be measured, monitored and assessed?

Key components of an accountability system include:

I Mission Statement

- Goals and measurable objectives
- Performance standards and indicators
- Accurate, valid and reliable data
- Reporting performance results to the Trinidad and Tobago citizens
- Incentives for high performance
- Consequences for failure
- Mechanism(s) to provide assistance to improve results

- Unified budget that supports the achievement of the stated goals

II Levels of accountability. Where does responsibility lie?

Historically, the Minister of Education has been responsible for the following three levels: pre-school; primary; secondary as well as for the Teachers' Training Colleges.

The Minister of Science, Technology and Tertiary Education (STTE) now has responsibility for the post-secondary and tertiary levels. In a seamless system, for the purposes of accountability, it is important to identify the person or minister who is to be held responsible for the entire system. Should it be the Minister of Education or the Minister of Science, Technology and Tertiary Education? In some jurisdictions, a State Board of Education which has responsibility for the entire system is responsible for overseeing the enforcement of all laws and rules and the timely provision of direction, resources, assistance and intervention when needed and strong incentives to force accountability for results.

(xvi) Legislative Framework/Governance Structures

The existing education system of Trinidad and Tobago may be viewed as comprising at least five (5) sub-systems embracing different levels of education:

- pre-school
- primary school
- secondary school
- post-secondary level institutions
- tertiary level institutions

In the absence of an effective administrative and governance structure which is largely responsible for the existing fragmented system in which there is little or no connection between one level and another in terms of:

- **Content Standards.** Content standards refer to the knowledge, skills and attitudes that educational institutions should aim to achieve - that all students of Trinidad and Tobago attain high levels of competency in the particular subject matter. These standards should cover the entire range of pre-school to tertiary level education.
- **Student Performance Standards.** These standards establish the degree or quality of student performance expected in the challenging subject matter set out in the content standards.

- **School Delivery Standards.** These standards, often referred to as “opportunity to learn” standards, set out criteria to enable Ministry of Education central and regional offices, education staff, policy-makers, parents and the public to assess the quality of a school’s capacity and performance in educating their students in the subject matter set out by the content standards. School delivery standards provide a metric for determining whether the school “delivers” to the students the opportunity to learn the material in the content standards. On the outcome side, does the performance of the students in the school indicate that the school is successfully providing all students the opportunity to learn?
- **System Delivery Standards.** These standards set out the criteria for establishing the quality of a school system’s or level of school system’s sub-system (national and regional) capacity and performance in educating all students in the subject-matter set out in the content standards. Each educational region establishes its own achievement targets which, when summed, would enable the nation to achieve the national goals.
- **A Seamless Curriculum** linking pre-school, primary, secondary, post-secondary and tertiary level expected learning outcomes in a continuum of logical, sequential, developmental, educational/learning units.
- **Methods of Assessment.** In the existing system, methods of assessment vary from one level to the next, within a particular educational institution and from school-to-school. At present, there is no empirical evidence that assessment at one level of the system is a reliable guide for indicating what a student knows or does not know, is able to do or cannot do. Accordingly, current assessment practices offer little assistance in predicting student academic success at each succeeding level or stage.
- **Certification of Achievement.** At the primary level, the Secondary Entrance Assessment (SEA) Examination results are used to select/place students in the different types of secondary schools – traditional seven and five-year schools, junior secondary and composite schools. These results are barely indicative of what each student knows and is able to do after seven years of primary schooling.

At the secondary level, ‘passing’ grades at the Caribbean Examination Council’s (CXC) General Proficiency and Basic Proficiency Examinations or GCE/GCSE ‘O’ Level Exams are used to select students for further academic study at the Cambridge Advanced Level Examinations or to qualify graduates exiting after Form V for the

world of work. In addition, the National Examinations Council (NEC) certifies student “achievement” in the Specialised Craft subjects (masonry, plumbing, automechanics, etc) and the Cambridge Advanced Level Examination (taken after two years of Sixth Form studies) results are used for selection to pursue higher education at the tertiary level and for entry into the workplace.

At the post-secondary and tertiary levels, certification for various levels of achievement by way of certificates, diplomas, associate degrees is provided by internal and external assessment in both private and public institutions.

Because of the variance in quality and the difficulty in determining what these various kinds of certification truly represent in respect of student achievement, they constitute hurdles to be overcome in arriving at a seamless system of education.

- **Mechanisms for Collaboration/Communication/Information.** Within individual schools, within regional school districts, across the different levels and sub-systems of the education system, collaborative, cooperative, communicative mechanisms exist neither formally nor informally. Schools do not, as a rule, share information. Links with the community are mainly through Parent Teacher Associations (PTA’s). Schools are also disconnected with respect to their needs for information, collaboration and communication with each other and with the communities in which they are located.
- **Legislative Framework and Governance Structures.** The Constitution, the Education Act, the Ministry of Education, other Ministries (i.e. Health, Labour, Tourism, Agriculture), Denominational Boards, the Service Commissions (Public Service Commission, Teaching Service Commission), other private institutions, the post-secondary and tertiary level providers – all of these are involved in governance of the entire education system. The proliferation of such governance structures throughout the system contributes significantly to the fragmentation and disconnection described above. The multiplicity of governance structures constitute barriers militating against the effective establishment of a seamless system. The status quo cannot be allowed to continue.

Changing the status quo is a pre-requisite for establishing a seamless education system in Trinidad and Tobago. And changing the status quo calls for radical education reform. This involves drastic re-organisation and re-structuring of the entire education system. In turn, this will require new legislation and governance structures to be put in place in order to develop, implement and evaluate a single, unified

seamless system spanning the pre-school and tertiary levels in Trinidad and Tobago – a system which must eliminate the disconnections identified in the preceding paragraphs.

There must be cohesiveness and coherence – all the parts of the system must hang together – and consistency at each level of the system in its approach to implementing a seamless system. Coherence and consistency crucial to the achievement of the goals and objectives of a seamless system of education and training can only be assured under a single umbrella – a relevant, flexible, coherent unified legislative framework or set of regulatory guidelines and procedures enforceable by law.

Integral to such legislation would be the establishment of governance structures operating both over and within every level of the education system. These structures need to be flexible and responsive to the goals and objectives of the seamless system. In this regard, the following issues/queries need to be taken into account when deciding on models of administrative and/or governance structures:

- The role and responsibilities of central government in policy-making and goal setting.
- Who should be involved in setting/shaping the Government's policy agenda and policy formulation?
- The role and responsibilities of professional educators and other key stakeholders (representative of business, industry, labour, private and public sector employees, parents, teachers, students) in formulating curriculum policy.
- The role and responsibilities of regional education district authorities and schools.
- The issue of decentralisation. What is to be decentralised, how and for what purpose?
- What role, if any, should be played by the Service Commissions and the Denominational Boards?
- What governance structures are most appropriate for ensuring alignment of the different levels and sectors of the education system – pre-school, primary, secondary, post-secondary and tertiary (embracing both private and public educational institutions).
- Integral to the effective implementation of a seamless system is an accountability system (see Section 2.6.4 (xv) above). What governance structures, therefore, are most appropriate and necessary to ensure accountability?

- Should there be a single Board of Education for Trinidad and Tobago serving as a unit or single entity to represent all of education – from pre-school to tertiary. How many members should it consist of? Who shall appoint its members? How are they to be appointed? To whom shall it report?
- Should the Board of Education also take responsibility, in an oversight role, for Teacher Education and Professional Development or should a separate Teacher Education Board be established?
- Should this Board of Education prepare an integral pre-school to tertiary level education budget representing the national priorities for education and a rational allocation of limited educational resources?
- Should this single Board of Education, in consultation with Government or independently, set the vision for overall education, set national policy and hold delivery institutions accountable for meeting expectations?
- Should there be appointed Chief Executive Officers (CEO's) for every level of the system (e.g. a CEO for primary education, another for secondary, etc) reporting to a Permanent Secretary who will serve as the 'Commissioner of Education' for Trinidad and Tobago? The 'Commissioner' holds the responsibility and is accountable for implementing national education policy. The Chief Executive Officer is to be appointed to work with the different delivery systems and will be held accountable not only for the performance of that delivery system, but for working with the other delivery systems (primary schools, secondary schools are delivery systems) to ensure seamlessness across the spectrum.
- Should the Board of Education set performance standards and measures for the delivery systems and institutions while strategies for implementation are determined at the regional and school levels?
- What should be the lines of communication between the Board of Education or central government authority and the schools? How do the schools communicate their views on the curriculum and other educational concerns?
- What is the role of School Boards in the implementation of a seamless system? What power should they be given? Should they serve as the "accountability centre" for the particular school? Should they have the authority to hire and fire staff, establish or terminate academic programmes, make decisions related to maximising the performance of the particular school or institution?

In sum, the establishment of governance structures is an essential input for an effectively functioning seamless system.

2.7.0 Throughput/Delivery System in the Conceptual Framework for a Model of a Seamless System of Education and Training

2.7.1 As indicated at Section 2.6.2 above, throughputs/transformational processes constitute a critical component of the conceptual framework which is based on an open systems approach. Through the transformational process occurring in the delivery system(s) inputs are converted into the desired outputs of the different levels of the educational system. (See Attachment III, Figure 1).

2.7.2 What takes place in the delivery system which is the implementation level at the school district, the pre-school, the primary, secondary, post-secondary, tertiary level institutions and classroom site levels – becomes a catalyst for activating the conditions and processes which are carefully orchestrated to transform in the most efficient and effective fashion the inputs (see Section 2.6.4 above and Figure 1) into the learning outcomes expected at each level of the educational process – pre-school to tertiary level.

2.7.3 It is the responsibility of each provider/agent of the delivery system, through its management and transformation of the inputs to provide the expected output/outcome for that level. For each level, the output of the preceding level becomes the input of the succeeding level. In this way, a seamless system providing access at every level and multiple points of entry and exit can be achieved. For example, at the post-graduate level delivered by universities and other tertiary level institutions, access through meeting admission requirements is made possible by students' successful completion of graduate studies or by way of transfer of credits and/or special admission policies that take account of student competencies acquired at the sub-bachelor levels or through workplace-based programmes. Similarly, at the secondary level, schools must deliver as their output via the CXC, NEC or Cambridge 'O' and 'A' Level Examination, or through the proposed National Certificate of Secondary Education (NCSE) (intended to certify student achievement of the standards set at this level for high-school certification/high school graduation) students capable of accessing and succeeding in post-secondary academic technical/vocational programmes of study.

2.7.4 But, it is in the school and classroom site that the input elements, identified at Section 2.6.4 above, in particular, the established standards and indicators, curriculum, assessment, information/data, instructional materials, professionally trained administrators and teachers must all come together in planned, purposeful and dynamic interaction. This interaction or interplay of inputs must be organised, orchestrated and driven by a clear focus on a single

purpose – achieving the desired outcomes/outputs of the particular delivery system.

2.8.0 Output Component of the Conceptual Framework for a Model of a Seamless System of Education and Training

2.8.1 In a student-centered approach to instruction, the focus is on student achievement – achievement of the desired learning outcomes. Accordingly, the most important component of the system is the output/outcome in terms of student academic achievement expected upon completion of each stage or level of the educational system.

2.8.2 The outputs of a seamless system are the specified learning outcomes expected at the end of each cycle – the competencies, skills, knowledge, attitudes and values which are acquired by each student at the end of a particular cycle, stage or level in a particular sector. We expect each level of the system to deliver students who have acquired the defined competencies.

2.8.3 In a seamless system, the curriculum is designed in such a way that each level builds on the preceding level – competencies/standards achieved upon exiting one level prepare the student to meet successfully the challenging standards of the succeeding level.

2.8.4 Thus, children who have attended pre-school graduate from this stage ready for primary school. Students graduating from primary school are expected to enter the secondary level with the knowledge, skills and attitudes – the competencies which prepare them to cope with the demands of the secondary school. Similarly, upon exiting secondary school, post-secondary and tertiary institutions, completion of the relevant programme enables students to further their education (allowing them to branch into either “academic” or “technical/vocational” programmes) or to seek employment with the confidence that they satisfy the requirements either for the world of work or for further study.

2.8.5 Designed and implemented with the foregoing expectations in mind, the outcomes/outputs of each level would allow for multiple points of entry and exit. Students can temporarily abandon their studies (by choice or by force of circumstances) and later resume academic study in a seamless system which not only takes account of previous learning but which, based on such documented learning, identifies the competencies/standards they had achieved when they exited the system. This becomes a platform for lifelong learning.

2.8.6 At present, competencies are “certified” by national, internal or external examinations/assessments which cannot be accurately described as performance or competency/standards-based. Achievement at the primary level is assessed in terms of how well a student has done at his/her SEA Examinations. Similarly, academic achievement at the other levels is certified by NEC, GCE ‘O’/CXC General and Basic Proficiency levels, Cambridge ‘A’ level, Certificates, Diplomas, Associate degree, Bachelor degree, awards/qualifications as the case may be.

2.8.7 Clearly, the existing system of assessing and certifying student academic achievement in Trinidad and Tobago does not and cannot contribute to the effective and efficient functioning of a seamless system of education and training. The present system of assessing and certifying student achievement at the different levels (pre-school, primary, secondary, post-secondary and tertiary) is not aligned to standards based on a “continuum of competencies” ranging from pre-school to tertiary levels. Accordingly, smooth and easy transition from one educational/instructional level to the next, without unnecessary duplication, is not catered for.

2.8.8 The current system, if high quality seamless education is to be achieved, must be harmonized and rationalised. What is required as a core input for the output dimension of the seamless model is the establishment of National Accreditation and National Qualifications Framework (NQF) mechanisms (perhaps modifying the United Kingdom and New Zealand National Qualifications Framework models). Ruby Alleyne, in her policy paper – “Pathways to Successful Living: Developing a Seamless Education and Training System for Trinidad and Tobago”, states that a “National Qualifications Framework (NQF) dissects qualifications offered at all institutions in a country into blocks of learning. Each block has a specific value and each one is a stepping stone to a higher level of qualification”. As Alleyne pointed out, “easy progression from one level of education to the next and transition from one field of study to another, in a logical and sequential manner” can be facilitated and a “achieved through a system of credits, completing levels and continuing or professional units, which recognise the value of all approved qualifications and locates them on a National Qualification Framework (NQF)”. In this regard, New Zealand offers a model worthy of serious study.

2.8.9 For example, the New Zealand Qualifications Authority (NZQA), which may be considered the counterpart of the Trinidad and Tobago National Accreditation Council, “administers regulations, conducts examinations and issues results and certificates”. The NZQA deals with over 130,000 subject entries and issues over 500,000 results.

2.8.10 Since 1990, the New Zealand Qualifications Authority has been developing the National Qualification Framework in consultation with specialists from education and industry. According to the NZQA:

“ The NQF is a system designed to recognise the attainment of knowledge, understanding and skills by all people in New Zealand. Framework qualifications are quality-assured and nationally recognised. Learners who register on the Framework are able to accumulate credits over time and at their own pace as they work toward a qualification. All qualifications currently registered on the Framework are composed of registered unit standards – statements that describe what a learner knows or can do. Because the unit standards are nationally agreed, learners’ achievements can be recognised in a number of contexts. Their knowledge and skills will be transferable between qualifications and providers. Standards specify learning outcomes”. (NZQA, 1999C).

2.8.11 With the aim of replacing its existing norm - referenced examinations such as our SEA, CXC and Cambridge ‘A’ level examinations) by the introduction of outcomes-based “unit standards”, (i.e. criterion-referenced assessment) New Zealand has been developing a national certification structure. For example, similar to the proposed National Certificate of Secondary Education (NCSE) (which has been, to some extent, informed by the New Zealand model), New Zealand has introduced its new National Certificate in Educational Achievement (NCEA) (targeted at its ‘O’ and ‘A’ level secondary school students) to provide a unified framework for achievement. The NCEA is intended to replace a two-tiered system of assessment in which external examination results and internal assessment of student achievement based on unit standards currently co-exist.

2.8.12 The New Zealand Qualifications Framework and the National Certificate of Educational Achievement also seek to remove and reduce **the artificial** distinctions between academic and vocational education and achievement. Indeed, in “breaking down the barriers between different types and levels of educational institutions and the qualifications they offer in order to achieve a seamless education, New Zealand announced the introduction of its National Certificate of Educational Achievement (NCEA): “The National Certificate would be developed to provide units of learning in vocationally related topics, which would be studied in the senior (secondary) school and/or polytechnics, private providers and the workplace. The certificate would be linked to academic courses in the sixth and seventh forms....., and provide a more attractive range of options, and reduce artificial distinctions between academic and vocational education”. “Vocational subjects” cover a wide range of programmes or non-conventional subjects/courses such as business administration, communication skills, core generic lifeskills, health studies, outdoor recreation, service sector skills, tourism, hospitality, hairdressing, dressmaking, childcare, electro-technology, first aid, automotive, agriculture, horticulture, etc.

2.8.13 Establishment of a National Qualifications Framework for Trinidad and Tobago is an essential requirement of a seamless system of education and training for this country. It provides the necessary mechanism for the recognition and accreditation of all programmes and courses of study at every level of the system. It serves to validate the output of the system – the competencies, the learning achievement levels attained by students at every level of the system.

3.0 Overview of existing situation at each of the five levels of education, namely: Pre-school/Early Childhood Education, Primary, Secondary, Post-Secondary and Tertiary Levels

3.1 In this Section (Section 3), Terms of Reference (ii) and (iii) (see Section 1.1.1 above) are addressed in Sections 3.3-3.17 – Overview of the system and also in Sections 3.3-3.7 which examines critically (albeit briefly) each of the five levels or subsystems of the education system – pre-school, primary, secondary, post-secondary and tertiary.

3.2 Overview and Analysis of the Education System

3.3 Currently, the system functions for the most part as a uniform, linear progression defined by three principal examinations – the Secondary Education Assessment Examination (SEA), Caribbean Examinations Council (CXC) and Cambridge Advanced level ('A' levels) and soon the Caribbean Advanced Proficiency Examination (CAPE). Other lesser known examinations are the Primary School Certificate which, notwithstanding the introduction of universal secondary education, is still part of the system; and the National Examinations Council (NEC) examinations which are another route to the recognition of achievement and competence in the technical/vocational area. Many post-secondary providers also issue their own awards. (See Figure 2 for an illustration of the existing system).

3.4 CXC remains the principal school leaving examination at the secondary level. Student performance on this examination, however, highlights major weaknesses in the general academic preparation of the majority of students who lack the academic background necessary for successful study at the tertiary level and for the world of work. This deficiency begins earlier than the start of secondary education and makes the case for very early intervention to arrest the problem of low achievement by large numbers of secondary school leavers.

3.5 CXC results, therefore, cannot be interpreted in isolation from the way in which education at all levels is planned for, organised and delivered throughout the country. The various examinations are seen as the main determinants of talent and ability rather than being viewed in the context of an education and training continuum with explicit national goals at various

levels of the system that can facilitate learning for both those that are trailing and those with exceptional abilities.

3.6 In the absence of clearly articulated national goals at the various levels, examinations contribute to a lock-step approach to the teaching/learning process in which there is little or no recognition of individual interests and talents, special needs or different rates of development. This lock step approach and the limited avenues open to those with special needs and talents are not compatible with education as a life-long individual experience and a right to which all people are entitled. It belongs in an earlier period when learning was seen to be primarily for school-age and “bright” students and not for the vast majority of adults who for various reasons were not able to successfully negotiate the various examination hurdles while at school. These hurdles to a great extent still characterise the country’s educational system and contribute to major seams.

3.7 The system is essentially examination-driven as the aforementioned defining examinations have a profound influence on curricula from the Infant 1 to Form 6 levels. The existence of CXC and ‘A’ levels make for a two-tiered secondary system – 12 years leading to CXC and 13-14 years leading to GCE ‘A’ levels and CAPE. This is a situation that needs to be addressed in light of the new definition of tertiary education and the increasing trend for students to go on to Bachelor’s degree level studies on the basis of CXC admission requirements.

3.8 There are other lesser known examinations in the system such as the Primary School Certificate to which reference was made earlier and which is still taken by a number of people notwithstanding the introduction of universal secondary education. This state of affairs is a seam as there is no common understanding as to how the primary school certificate and related examination fit into the existing system in terms of facilitating upward/vertical movement throughout the system for those who have been successful at it. Basically, its status like that of other elements in the system is unclear. The more fundamental question though is how can the primary school certificate continue to be offered when administratively it should have been phased out some time ago?

3.9 There is, also the National Examinations Council (NEC) examinations which operate under the aegis of the Ministry of Education (MOE). NEC examinations lead to certification in the technical/vocational area at the craft and technician levels at both the secondary and lower tertiary levels. However, studies over the years of the NEC and its capacity to effectively discharge its responsibility point to the need for considerable capacity building in the area of examinations-setting and overall in testing and evaluation. The role of the NEC at the tertiary level is another critical area which must be addressed.

3.10 Between the end of primary schooling which is almost the end of compulsory schooling as defined in law ...“any age between six and twelve...” and the area that is called post-secondary distinct from tertiary, there are numerous programmes purporting to enhance the life chances of students but whose value has not been properly assessed in either an academic or world of work context.

3.11 Examples of such programmes which run parallel to Forms 1-3 at the secondary level are the Servol Junior Life Programme (2 years), ages 12-14, the Servol Adolescent Development Programme (3 months) ages 15-16. These programmes are accessed by students of secondary level age but it is unclear as to what levels of core skills are provided in these and other similar programmes in order to facilitate articulation between secondary providers and tertiary institutions.

3.12 There is virtually no relationship between the principal examinations in the system and the lesser known ones. This situation gives rise to numerous seams and hurdles in the system which many find difficult to clear. The problem is further compounded by the fact that at the post-secondary level there is no shared understanding of course values that can serve as a basis for either horizontal or vertical programme articulation.

3.13 The effects of these shortcomings are evident in the data which show that Trinidad and Tobago adults on the average have 7 to 8 years of schooling compared with 11 to 12 years of school in developed countries. The majority of adults now in the workforce lack the essential skills needed for increased productivity and for enhancing the economic competitiveness of the country. The country will, therefore, be hard-pressed to develop an internationally competitive work force, if steps are not taken immediately to address this situation in which the majority of our citizens do not now successfully complete secondary school.

3.14 A key objective of the seamless system is to ensure that the emphasis on workplace competence and prior learning is consistent with a concomitant emphasis on higher levels of academic achievement from a much larger proportion of secondary school leavers especially in Mathematics, Science and English Language. This must be reflected in clear national achievement goals for all students. Such understanding will contribute significantly to bridging the divide between the academic and technical/vocational areas because of the sameness in the basic education foundation that all school leavers will be required to have for further education including technical/vocational education and the world of work.

3.15 The capacity to succeed in tertiary education including technical/vocational education and life-long learning opportunities depends considerably on the quality of basic education preparation centred on the development of foundation skills such as literacy, numeracy, problem-solving, and learning-to-learn skills, together with social and citizenship skills. This is an area that requires urgent attention because it is at the root of the problem of economic

and social marginalisation of large numbers of our people who lack the basic education for productive participation in the national economy.

3.16 Accordingly, programmes that are best described as second chance opportunities should not implicitly support the assumption still evident in certain quarters, that the country can build a strong and internationally competitive labour force on a weak basic education foundation in English Language, Mathematics and Science in particular. Therefore, second chance programmes must be planned and developed as integral parts of a seamless education and training system in which basic education for both school age students and adult learners is the core.

3.17 While it cannot be denied that many individuals benefit from these postsecondary second chance programmes, the fact that they are not properly articulated with programmes and curricula at tertiary level contributes to significant wastage of our scarce financial and human resources and leads to considerable career frustration for those seeking to further their education, and their own personal development. It is critical, therefore, that the wide range of post-secondary second chance programmes administered by various ministries and agencies be subject to more effective co-ordination with a view to their integration into a more coherent education and training system beyond the secondary level. On the whole, government ministries may wish to reconsider their roles in the development and offering of programmes leading to certification.

3.18 Several regional studies have shown that when education systems in the region are assessed in terms of social equity, students from lower socio-economic groups tend not to survive the process of schooling as it is currently organised and implemented. Broadly based economic and social development necessitate that all citizens be provided with equal opportunities to fully develop their potential in a system that gives individuals the sound educational foundation that is a prerequisite for productive lifelong learning and access to quality education. Seamlessness, therefore, **has an equity dimension**, and this challenge cannot be effectively addressed at the level of the school without clear guidance from the policy level. Experience in progressive countries has shown that the concept of articulation is rooted in policy. In practical terms, in the local context, the many initiatives from the pre-school to tertiary levels must be informed by a clear national vision for education and training that facilitates the articulation of goals, standards and policy across levels.

3.19 One of the chief goals of the seamless education and training system should be the maximization of the potential of individuals. In order to achieve this goal, such a system cannot be viewed in isolation from the other systems which support learning and the well-being of individuals. Children's academic experiences are not a separate component of their lives. Their success in school is linked with their surroundings and they develop socially, emotionally, physically and intellectually at differing rates. Those who receive inadequate health care and poor nutrition and live in appalling circumstances often struggle in school. To be

effective, an educational plan must be interdependent with all aspects of a child's development. While the relevant ministries have responsibility for the plan, it must be understood that the plan must be a community plan in which there is shared commitment among educators, politicians and community leaders for ensuring adequate financial support for schools and for working toward improving a student's total environment. At the governmental level an inter-ministerial committee or other high level mechanism must have clear responsibility for the implementation of the plan through the various councils, agencies and other relevant bodies that have responsibility for implementation at the different levels of the system.

3.20 Parents have a key role to play in the operationalization of the plan. Studies consistently show that students make important educational gains when their parents are involved. Nothing contributes more to school performance than a positive attitude toward learning and that begins at home. Cutting-edge school systems make training available to help parents learn how to participate effectively in their children's educational development. A study of the experience of effective schools in our society will also reveal significant parent/community participation in school activities.

3.2.0 Pre-school Level – Overview

3.2.1 Experience in societies to which this country makes continuous reference as models reveals that the transformation of the philosophical and structural foundation of schools necessitates a high level of collaboration among a wide range of stakeholders – business leaders, political leaders, parents, and communities.

3.2.2 The establishment of a seamless education and training system in the country has such far-reaching implications for the way in which the education system is planned for and organised that it necessitates clear understanding that in such a development, school is everyone's business and everyone has a role to play at all levels of the system.

3.2.3 This revitalisation requires that human resource development start at the earliest levels. It requires most of all that the current legal definition of compulsory education – 6-12 years be re-examined immediately to reflect the vision and aspirations of the society with respect to the development of its human resources. Research suggests that significant and critical brain development of intelligence occurs before the age of 7 years. Between the ages of 5 and 7, a child's cognitive and social development changes dramatically. During these years, learning is remarkably fast and children move from pre-operational to operational intelligence and to think abstractly. This is a most critical period and for many, these years mark the child's first experience away from family and their first experience with being evaluated on a comparative basis with other children.

3.2.4 The Early Childhood Care and Education (ECCE) Unit, therefore, sees early childhood education as preparation for life. It envisages that children having been exposed to quality early childhood programmes will be better equipped with the necessary skills to move successfully to the next levels and will have acquired the necessary life skills to enhance development into well-adjusted and responsible citizens capable of contributing to society.

3.2.5 Against this backdrop the ECCE Unit believes that:

- Early Childhood Care and Education (ECCE) is fundamental to the overall development of children and their families, communities and the nation because there is a vital connection among these entities;
- All children are capable of learning and have a fundamental right to education;
- The formative years are critical to on-going learning and development;
- The provision of quality education is essential to the development of human potential and the society of the future;
- The well-being of the child is best served by a strong partnership involving families, communities and the schools.

3.2.6 Although the importance of early childhood education in personal and academic success is now more widely recognised than in earlier times, the ECCE sector appears to be still not fully recognised as an integral part of the country's education system. There is, therefore, an obvious need for this shortcoming to be addressed with some urgency. An important result of this change is that both Government-assisted centres and the centres managed by Boards should be subject to the same quality assurance oversight.

3.2.7 Some of the key issues that have a direct bearing on quality in the ECCE sector as well as on the seamlessness imperative at the present time are the following:

- an inadequate number of supervisory and professional staff to administer the programme;
- ECCE Centres are not guided by the Ministry of Education philosophy, vision and mission;
- Teachers in the ECCE Centres have varied terms and conditions of employment. They also have different employers, while teachers at both Primary and Secondary levels have one employer – the Ministry of Education.

3.2.8 Transition from Pre-school to the Primary School

The transition from ECCE Centres to Primary Schools is often a traumatic time for many children. The new facility (the primary school) is usually organized differently and generally larger with more teachers and pupils. This gap is aggravated by the fact that many teachers in the primary school are not aware of the programme of work at the ECCE Centres. In addition, because of the national preoccupation with examinations, and the view that children must be prepared from a very early age for the various examination hurdles ahead, many parents have different expectations from the goals of the ECCE programme.

3.2.9 There is therefore a need for teachers in the Infant Department of Primary Schools to work closely with teachers and parents at the ECCE level in order to effect smooth transition and articulation between the levels.

3.2.10 Such a development is best implemented and addressed in the broader context of national goals for education beginning with school readiness as one of the principal outcomes of early childhood education.

3.2.11 Pre-School Curriculum

Towards this end, the Curriculum for ECCE needs to be revised. Some ECCE caregivers/teachers including some who are certified have been observed to be unable to translate theory into practice. A major problem is that their training programmes do not adequately prepare them to teach children between the ages of 3-5. This brings to the fore the issue of teacher training/education which is a key factor at all levels of the system and which was addressed earlier at (xi) of Section 2.6.4.

3.2.12 Efforts are in progress to address this problem and it is expected that the National Curriculum and Guide (ECCE Unit) will provide considerable support for ECCE teachers to improve their competence. This should be seen as an excellent opportunity to situate this specific challenge in the broader context of teacher education reform.

3.2.13 A major goal of the new ECCE curriculum is that all children in Trinidad and Tobago will be expected to start primary school ready to learn. It is recognised that the most essential element that makes a positive, permanent difference in the lives of young children are responsible parents and a healthy nurturing home life. Unfortunately, these elements are absent for many children and often must be supplemented by government services and programmes. These services and programmes must include pre-school education, parent education and support and health care for infants and mothers, if pre-school education is to be the foundation of the seamless education and training system. These inputs undoubtedly enlarge the concept of “curriculum” as well as broaden our understanding of the challenge of seamlessness in the education and training context with particular reference to the prerequisites for achievement.

3.2.14 Universal School Readiness

Attaining universal school readiness depends also on improving the capacities of public schools to accommodate the diverse learning styles and capacities of young children. There are indications that many schools are not sufficiently “ready” to provide successful experiences for their youngest students, and this can contribute to alienation from formal education at an early age. While the number may not be large there is evidence that some children in our country drop out of school at the elementary level. Every effort should, therefore, be made to address this serious problem in terms of both prevention and remedy.

3.2.15 Beginning at the pre-school level, it is necessary to define the term “at risk” and in this context determine how readiness for school should be assessed. It will also be important to determine what the results are of making pre-school programmes available for children who need them most. The Southern Regional Education Board in the United States has identified three areas for measuring progress at this level. They are availability of programmes, quality of programmes, and consequently the results of children. These are variables which can assist us in the necessary on-going evaluation of the ECCE as a foundation pillar of the education and training system.

3.2.16 In light of the foundation which early childhood education provides in a seamless education and training system, the following recommendations are intended to strengthen this critical base:

- (1) The Ministry of Education should assume the same responsibility for ECCE as it has for the other levels of the Education System.
- (2) Training for ECCE, caregivers/teachers should be brought under the Board of Teacher Training.
- (3) The terms of reference for Boards of ECCE Centres must be revised in light of the establishment of Boards at the other levels.
- (4) Transition should be effected in such a way that it flows smoothly from one level to the next – ECCE to Primary. The ECCE Unit is currently working on this issue and a project involving teachers from both establishments is underway in two education districts in the country. Plans are in progress to include the other districts.
- (5) Continue in-service teacher education and development, with emphasis on the teacher-student interpersonal relationship.
- (6) Adequate resources must be provided including instructional material.
- (7) Establish outcome measures and reporting systems for each level of the educational system in the context of a single national policy on education.
- (8) High expectations must be set and continuously monitored for all children and mechanisms put in place to ensure this.
- (9) Training for parents should be provided to enable them to participate effectively in their children’s development. The centres/schools must therefore, foster greater community involvement.

- (10) Increased emphasis should be placed on institutional strengthening in the ECCE Unit.
- (11) The legal framework for education should include early childhood education as an integral part.
- (12) National consultations on proposed standards for regulating early childhood services have been launched and these should be situated in the larger context of the seamless system imperative.
- (13) A multi-agency approach to the delivery of childcare and early childhood services should be adopted.
- (14) Specialisation in early childhood education should be offered in the Teachers' diploma programme and in a B.Ed at UWI or other tertiary institutions.

3.3.0 The Primary Level - Overview

3.3.1 The Existing Structure

Although reference is frequently made to universal primary education as well as universal secondary education, legally in this country "a compulsory school age" means any age between six and twelve years and accordingly a person shall be deemed to be of compulsory school age if he/she has attained the age of six and has not attained the age of twelve; and a person shall be deemed to be over compulsory school age as soon as he/she has attained the age of twelve. The current compulsory school age, therefore, is not consistent with the country's commitment to human resource development informed by the lifelong learning imperative and the need to strengthen basic education in the country.

3.3.2 The pre-school and primary levels are the foundation of seamlessness in the educational system. It is critical, therefore, that all children entering primary school should be ready for First Year Infants. This is, however, not generally the case and, therefore, there is a need to develop a concept of "at risk" children and a concept of "readiness". This is a prerequisite for establishing programmes that help those children who are unprepared to begin work in First Year Infants. The difficulties encountered by many of our students at the secondary level have their genesis at this level and earlier.

3.3.3 Structure of Primary Education

In the primary school, there are three levels or departments:

- (1) Infants – years 1&2
- (2) Lower Juniors – Standards 1, 2&3
- (3) Upper Juniors – Standards 4&5

In large schools, in-house arrangements are made for departmental coordinators or lead teachers in schools varying in size. Small schools have a student enrolment of 200-250; medium schools 250-400 and large schools 400-1000. Only large schools have Vice principals. In schools with under 400 students, the senior teacher assists the principal.

3.3.4 At the present time, there are between 475 and 500 primary schools. These are either government or government-assisted schools. There are many private primary schools in the system with some schools having under 75 students. Some schools in this category have between 26 and 65 students with a favourable student/teacher ratio but this is not reflected in a higher level of student performance.

3.3.5 Weak Articulation With The Secondary Level

The primary school curriculum does not articulate closely with the secondary level. There is, consequently, a need for curriculum review in the various subject areas with a view of having the curriculum relate more closely to Form 1 requirements and expectations in the secondary schools. This review must take place within the context of clear national goals and performance standards throughout the system. These goals should be an integral part of curricula and education philosophy and should be complemented by strategies for implementation including methodology and evaluation at all levels.

3.3.6 The Primary School – A Foundation Pillar

The primary school curriculum is a key element of the foundation level and should be organised in such a way that it serves as a model for the system as a whole in the comprehensiveness of its approach to curriculum development including quality assurance and evaluation. Curriculum documents particularly at the secondary level tend to be skeletal in form. At the pre-school level such documents are virtually non-existent. In light of the lack of clarity as to precisely what the goals and performance outcomes are for each level, it is not surprising that the system continues to be plagued by problems of articulation at all levels. This is one of the many areas that are in need of urgent corrective action.

3.3.7 Co-curricular Activities

Many co-curricular activities that are to be found at the primary level are not continued at the secondary level, e.g. Red Cross, Girl Guides and Chorale Speaking. The curricular emphasis at the secondary level tends to be essentially academic and can hardly be said to cater for the holistic development of the individual. This results in a reduction in the opportunities available to students to develop their talents. Where students' academic achievement is low, this deficiency has a negative impact on their self-worth and consequently their capacity for lifelong learning.

3.3.8 Evaluation/Assessment

At the primary level, the Continuous Assessment Programme (CAP) can at times be very haphazard. Teachers still rely heavily on paper and pencil tests and summative evaluation, as the system of formative assessment has not yet taken root in the system. Greater consideration needs to be given to school-based assessment as a component of the Secondary Examination Assessment (SEA) in the context of the CAP. A corresponding emphasis on school-based assessment

must also take place at the secondary level to ensure continuity and above all articulation.

3.3.9 Support Services

School success is not simply a school matter. It requires coordination of a broad range of services including educational, health and social services. An integrated and multi-agency approach to the delivery of the necessary services is, therefore, required particularly at the pre-school, elementary and secondary levels.

3.3.10 Recommendations - Primary

- (1) Collaboration and cooperation between primary and secondary teachers should be institutionalised through joint meetings/workshops/seminars, at least one per academic year.
- (2) The primary curriculum must be reviewed to ensure articulation with Form 1 of the secondary school.
- (3) There should be greater consistency in methods of assessment and evaluation at the elementary and secondary levels.
- (4) Parent/teacher associations should be established in all primary schools.
- (5) Special activities for Standard 5 students should be planned during the third term (April/June) to prepare them for entry into the secondary system.
- (6) Teachers at the primary level should be trained before entering or within one (1) year of entering the Teaching Service.
- (7) Teacher training at the elementary and secondary levels should reflect greater cognisance of the differences in the student/teacher relationship at the two levels.

3.4.0 The Secondary Level – Description and Overview

3.4.1 In establishing and maintaining a seamless education and training system in Trinidad and Tobago, it is arguably the secondary, post-secondary and tertiary levels, which also operate as subsystems within the supra-education system, that represent the greatest challenges. In this section of the Report (see Terms of Reference (ii) and (iii) at Section 1.1.1 above), the focus is on the secondary level and to a lesser extent, on its technical/vocational education dimension. It is particularly instructive to examine the structure and main distinctive features of the secondary level of the education system. Such an examination reveals the issues which must be faced if a seamless education system is to be created.

3.4.2 Structure of Secondary Education System

Secondary education for the (11+ 16+ age group) is provided at present by over one hundred and thirty-three (133) public secondary schools. Over eighty (80) are owned and managed by the Government. Over thirty-four (34) are owned and managed by various religious denominational boards. Through a dual arrangement of educational administration and provision, Government finances the public secondary schools. Private secondary schools registered and/or

approved by the Government (through the Ministry of Education) also provide secondary education, while the denominational schools all offer five-year (5) (leading to CXC/GCE 'O' Level Examinations) and seven-year programmes (leading to Cambridge 'A' Level Examinations). The Government schools are of five types:

- **The Junior Secondary** (most of them operating on a shift basis – morning shift - 7.15 am to 12.15 pm; afternoon shift – 12.30 pm to 5.30 pm) which offers a three-year programme (11+-14+ age group (i.e. Forms 1-3));
- **The Senior Secondary** which provide academic and a limited range of vocational offerings in two (14+-16+ i.e Forms IV & V) and four-year programmes (Form IV, V, Lower Sixth and Upper Sixth), depending on whether the school conducts Advanced Level classes;
- **The Senior Secondary Comprehensive** which provides an academic programme as well as a wide range of Pre-Technician and Specialist Craft courses in two and four-year programmes;
- **The Composite Secondary** which offers the junior secondary programme at the lower level and some of the senior comprehensive curriculum at the senior level (i.e at Forms IV & V); and
- **The 5/7 year Secondary** which offers a general secondary education, largely academic/grammar school-type programme. These schools offer 'O' Levels after five years (in Form V) and sometimes 'A' Levels after seven years (in Form VI).

3.4.3 At present, on the basis of Government's Universal Secondary Education (USE) policy, the entire primary school cohort is placed in secondary schools after seven years of primary schooling. Based on the results of the Secondary Entrance Assessment (SEA) Exam, which is taken at age 11+ and parental choice, students are assigned to secondary schools. There is an order of merit or ranking list. Those who obtain the highest marks attend their first choice schools which are generally the older denominational schools or government 5-7 year schools. These schools are popularly called "prestige" secondary schools. The weaker performing students (those obtaining 30% and lower of the total SEA score) are placed in the Junior Secondary Schools.

With the USE policy in effect students obtaining less than ten percent of the total SEA marks are placed in private schools (their places having been purchased by Government) or in special Form 1 classes in a Junior Secondary School where students receive remedial instruction in English and Mathematics.

3.4.4 This structure, composed of a hodge-podge of different types of secondary schools, with varying curriculum offerings, different types of administration and governance structures, different staffing arrangements, varying levels of physical facilities and teaching resources and students coming from diverse family backgrounds (in particular, with widely varying levels of income), perpetuates an elitist education system. It is a system in which access does not equate with equal

opportunity to obtain quality secondary education. It is not an uneven playing field. The majority of students entering and exiting secondary schools come from families which belong to the lower working class and lower socio-economic status groups (SES). And it is this majority who are assigned to the Junior Secondary Schools, Senior Secondary and Senior Secondary Comprehensive Schools and the 'non-prestige' Government-owned and managed five-year secondary schools and private secondary schools.

3.4.5 Clearly, the restructuring of the secondary system to provide for all students equal access to quality education constitutes an urgent imperative. The current Secondary Education Modernization Programme (SEMP), jointly funded by the Government of the Republic of Trinidad and Tobago (GORTT) and the Inter-American Development Bank (IADB) does not, in the opinion of the authors of this Paper, really address the need to radically restructure the system. While one of the major objectives of the SEMP is to eliminate the Junior Secondary School shift system by providing five years of continuous secondary education, it does not address the challenge of streamlining the structure of secondary education and the duality of state and denominational administrative/ governance structures.

3.4.6 The authors are aware of the existing Concordat agreement between the State and Denominational Boards which enshrines such a dual education system. However, we are of the view that not only should there be a rationalisation of the different types of secondary school (identified above), but equally important is that the Concordat should be revisited and revised in accordance with Government's commitment to establishing a seamless education system in which access to quality education is seen as an entitlement.

3.4.7 Distinctive Features of the Secondary Level of the Education System

3.4.7.0 The Secondary School Student Population

3.4.7.1 The student population attending the different types of secondary schools (see structure at Section 3.4.2 above) is distinguished by its diversity. Its diversity embraces social class, cultural differences, different student needs, abilities, interests, academic achievement levels and general readiness to pursue and/or benefit from secondary education. Outlined below are the principal characteristics of the student population of each of the five types of secondary school.

3.4.7.2 The majority of students comprising the secondary school population enter this level via the Junior Secondary School route. These are double shift schools with each shift having an enrolment of approximately nine hundred (900) students. With deshifting having taken place in some schools, there may now be about sixteen (16) or seventeen (17) Junior Secondary Schools.

3.4.7.3 The following are the major characteristics of this population:

- Students with the lowest scores on the SEA Examination in Mathematics and English (30% and less).
- Conservative estimates suggests that at least one-third of these students lack sufficient literacy and numeracy skills to be successful in the secondary education programme. Weak reading skills is a huge problem.
- Parents/guardians are from the lower working classes.
- Not only are their parents from the poorest and most needy social groups but many are from single families and/or are being brought up by grandmothers. Many have parents who have migrated.
- The majority are underachievers. Male underachievement is alarming in this group.
- There is a disturbing dropout rate at this level, particularly at the Form 3 level. To illustrate, according to Ministry of Education records, in “1995-1996, 12,300 students registered in Form 1 in junior secondary schools. In July 1998, 10,490 of these students registered for Form 4 in senior comprehensive and other secondary schools. This is a difference of 1810 students not continuing on into Form 4 who had begun Form I.”
- Low self-esteem and negative self-image. This may be the result of “failure” in the SEA Exam to secure their school of first choice and/or the negative image of the Junior Secondary School and its students held by the public at large. There is in the Junior Secondary School system/subsystem as a whole a pervasive self-perpetuating “culture of failure.”
- A growing tendency towards indiscipline and violence which has now reached disturbing proportions. Although several studies, including the latest research study by Professor Deosaran into the causes of school indiscipline and violence, have attributed school violence to multiple causes, it is undeniable that frustration and failure to cope successfully with the secondary school instructional programme is a major cause of the indiscipline and violence that has appeared in too many of our junior secondary schools. Much of this undesirable behaviour appears to be aimed at “attention getting.”
- There is, to a marked degree, a serious lack of motivation and sense of alienation prevailing among the general junior secondary school population which contributes, no doubt, significantly to their low levels of academic achievement.
- Despite the negative public image of the junior secondary school, it is to be noted that many junior secondary school students achieve admirable levels of academic performance.

3.4.7.4 The Senior Secondary And Senior Secondary Comprehensive Student Population

3.4.7.5 All Junior Secondary School Graduates, regardless of their performance and level of their achievement attained after three years, are automatically promoted/assigned to the Senior Secondary and Senior Comprehensive Schools, after writing the fourteen plus (14+) examination. This examination plays no part in the selection of students for either the school or for placement in particular courses of study (i.e. the general education/academic stream or the technical vocational stream catered for in these schools).

Accordingly, the characteristics of the Junior Secondary School population described above generally apply to the population of these schools. However, as these Junior Secondary School graduates are now older – they are now at the adolescent stage – the problems become more acute.

Continuing failure at this level, the result of not having been properly prepared at the Junior Secondary level exacerbates their frustration and reinforces their lack of motivation, their low self esteem and negative self image. Distressing failure rates among these students in the CXC/GCE 'O' Level Examinations and the National Examination Council (NEC) in the Special Craft subjects, not only attest to the worrying level of underachievement in the Senior Secondary and Senior Secondary Comprehensive Schools, but also contribute to the culture of failure into which the incoming Junior Secondary School students at the Fourth Form level are assimilated and socialized. Failure, then, becomes institutionalized as the norm.

It should therefore, come as no surprise that the level of academic underachievement combined with rapidly increasing socially deviant behaviour (illicit use of drugs, promiscuity and violence) is beginning to spiral upwards.

It is inconceivable that a seamless education system, such as we have described above – its nature, purpose and objectives - can be created without immediate measures being taken to aggressively attack the problems/issues resulting from the Senior Secondary and Senior Secondary Comprehensive demographic profile.

3.4.7.6 The 5-7 Year Secondary School Student Population

3.4.7.7 The students who enter the five and seven year government and government-assisted schools which are denominational schools present a very different demographic profile. Students who have selected these

schools as their first choice are high achievers. They are in the top ten to fifteen percent of the graduating primary school cohort in terms of outstanding performance in the SEA Exams.

There is also represented in this student population a wider cross-section of the various ethnic groups and social classes that make up the general population of Trinidad and Tobago. However, there is a greater proportion of students coming from upper middle class parental backgrounds than can be found in the junior and senior secondary schools. They come from more stable family backgrounds and home environments which are more conducive to and supportive of the demands of formal schooling.

There is, more importantly, evidence of greater motivation and higher levels of academic achievement among these students than those in the junior and senior secondary schools. This is supported by the much higher percentage of students who obtain five and more CXC/GCE 'O' Level passes and Cambridge Advanced Level passes in these schools compared to the percentage of similar passes in the other types of secondary schools.

Having said that, it is not to say that these students are perfect models of desirable social behaviour or of academic achievement. Certainly, there are cases of indiscipline and violence and of disappointing academic achievement in these schools. However, perhaps because of the continuity inherent in their five to seven years of continuous educational/learning experiences in the same educational institution, their higher academic abilities and their family backgrounds, problems related to demographic factors figure less prominently in these schools than in the other types of secondary schools. Additionally, these schools generally have relatively small student populations in comparison with their junior and secondary counterparts.

3.4.7.8 Teaching And Administrative Staff At The Secondary School Level

3.4.7.9 In addition to the teacher-centred instructional methodologies and techniques employed, to a large extent, by both primary and secondary school teachers, it is necessary to take account of some other characteristics of the teachers employed in the five types of secondary schools identified earlier. Some of the main characteristics follow.

3.4.7.10 Junior Secondary School Teachers

Originally, junior secondary school teachers were largely drawn from the ranks of trained primary school teachers. After receiving a general orientation to the teaching of the particular subjects offered at the junior secondary school, they were assigned to the various junior secondary

schools. Most of them had, in addition to their Teacher's Diploma, been selected on the basis of having an Advanced Level pass in a particular subject, or a pass in that subject as their elective option at the Teachers Training College, which they were then expected to teach in the Junior Secondary School. Very few possessed a Bachelor's degree in the subjects they were teaching and/or any professional training related to teaching adolescents or to secondary school teaching. Consequently, they had problems dealing with the junior secondary school students.

Today, there is a far greater number of Junior Secondary School teachers possessing Bachelor degrees. Many of these Junior Secondary teachers still have only 'A' Level passes or passes at the Elective Level (equated in the past with Cambridge or London 'A' Levels). However, the majority of Junior Secondary School teachers lack professional training.

Other characteristics of Junior Secondary School teachers are important to note:

- Many teachers are young University graduates without much teaching experience.
- Many are not happy at being assigned to Junior Secondary Schools because of the negative public image of these schools.
- Many teachers believe the junior secondary students are incapable of learning.
- Many show a lack of care and understanding for their young charges.
- Many constantly insult and verbally abuse their students.
- Many have difficulty managing their classrooms and controlling students behaviour.
- Teacher absenteeism in the Junior Secondary School is a grave cause of concern.

These characteristics are plainly of a negative nature. However, we must face reality. Unless something is done and done soon to remedy these negative features, the quality of education offered at this level will remain generally unsatisfactory.

3.4.7.11 Senior Secondary and Senior Comprehensive School Teachers

With the exception that the majority of the senior secondary and senior comprehensive school teachers have Bachelor's degrees in the subjects they teach and that several have the Diploma in Education, the professional qualification for teaching at the secondary level, these teachers share many of the characteristics of their junior secondary counterparts which we have outlined above. Of particular concern is the view held by many of these teachers that the incoming senior secondary school students come so badly prepared by their junior secondary school teachers that they can do little for them at this level. Many claim that the

junior secondary school students come to them with exceedingly weak reading skills. They lack a foundation in basic English/Reading and Mathematical skills. As a result, too many senior secondary school teachers give up in despair. They often express their frustration at not being able “to get through” to their students. Thus we have demotivated teachers who also show an inability to manage their students and classrooms. Teacher absenteeism is also high in these schools. The result is not only poor CXC and NEC Exam student performance but increasing violence and indiscipline in these schools.

3.4.7.12 The Five To Seven Year Secondary School Teachers

3.4.7.13 As mentioned earlier in this Paper, most of the 5-7 year schools are denominational (government-assisted) and the older (traditional) government secondary schools. The ‘prestige’ schools with the highest academic achievers and with students from the middle and higher middle income families belong to this group of secondary schools. Teachers in these schools are not ideal models of the “good teacher” but it is undeniable that they can be contrasted with the teachers from the other types of secondary schools. Generally, they may be distinguished from the other groups by the following characteristics (although there are exceptions):

- They are perceived as being more committed to their profession.
- In the denominational schools they are selected by the particular Principal and/or denominational board and then appointed, almost as a formality, by the Teaching Service Commission after the perfunctory interview process.
- They are generally highly motivated individuals. Perhaps this may be attributed to the greater academic success of their students in the CXC and Cambridge ‘A’ Level Exams.
- Their absentee rate is generally much lower than in the other types of secondary schools.
- Generally, they treat their students with greater respect than many of the teachers in the other types of secondary schools. They are less verbally abusive and insulting to their students.
- Because their schools have very positive public images their high self esteem and self confidence as teachers are evident.

An honest observer of the teacher population in our various types of secondary schools will reluctantly have to admit that, even in respect of the teacher profiles, the five to seven year secondary schools have a clear advantage over the other types of schools. It is not only a matter of these schools receiving students in the higher ability range. Unfortunately, it is also a matter of a significant difference in teacher attitudes towards their vocation.

A seamless system cannot be created if we ignore these differences. Equality of opportunity for every student to receive a high quality of education requires that teacher attitudinal differences in the various types of secondary schools be addressed as a priority concern.

3.4.7.14 Curriculum Issues At The Secondary Level

3.4.7.15 In designing a seamless education and training system the following issues/concerns related to the secondary school curriculum must be addressed as priority:

- (i) The widespread perception that the secondary school curriculum is not relevant. It is felt that it meets neither the needs of the economy, the employers nor the needs, interests and abilities of the students it serves.
- (ii) The curriculum lacks coherence, continuity, proper coordination and articulation. The existence of different types of secondary schools (see Section 3.4.2 above) has encouraged a disjointed, disconnected curriculum that fails to integrate learning outcomes in the different types of schools and levels within each school.
- (iii) The secondary school curriculum is generally dictated by external examinations such as the CXC/GCE 'O' Level and Cambridge Advanced Level Exams.
- (iv) The existing curriculum, as a consequence of (iii) above, is neither competency/standard-based nor results/outcome-oriented.
- (v) The curriculum is teacher-centred not student-centred as it ought to be. For example, the curriculum does not cater to multiple intelligence. (The SEMP Curriculum seeks to address this concern).
- (vi) The existing curriculum (although the new SEMP curriculum seeks to address this weakness) does not foster critical, independent nor creative thinking. It does not do enough to develop students' problem-solving skills.
- (vii) It (the curriculum) does not provide adequate remedial programmes for the substantial number of students who enter the secondary schools with severe deficiencies in their reading, writing and basic mathematical skills.
- (viii) The curriculum does not take into account the students' developmental learning stages. Developmental/educational psychology seems to be overlooked in designing the curriculum.
- (ix) There is a widely held view that the secondary school curriculum is overloaded with too many subjects offered in some schools. It is felt that quality is being sacrificed on the altar of quantity.
- (x) Yet, there are many voices, some of them influential, calling for more topics/subjects to be included in the curriculum. Few speak of the need to reduce the curriculum offerings, particularly at the Junior Secondary School level where the majority of students seem

unable to cope with Mathematics and English far less with the other eight subjects on their curriculum. There is certainly a case to be made for quality rather than quantity.

- (xi) There is the strong view that a relevant secondary school curriculum should devote more attention (than given at present) to the following: morals and values education (the new SEMP curriculum is addressing this need), Information Technology, environmental education, entrepreneurship and health, sex and family education (which is also now being addressed).

3.4.7.16 Technical/Vocational and Technology Education in the Secondary School Curriculum

3.4.7.17 In treating with the secondary school curriculum, it is necessary to address separately, albeit briefly, the place of technical vocational education and the introduction of a new subject, technology education in the curriculum. At present the secondary school level provides the following Technical Vocational offerings:

➤ Lower Secondary
(Forms 1-3) and in all
Junior Secondary Schools

- Home Economics
- Agricultural Science
- Industrial Arts

➤ Upper Secondary
(Forms 4-5) Senior
Secondary and Senior
Comprehensive Schools

These subjects are offered at CXC:
AGRICULTURAL SCIENCE
(Double Award)
Agricultural Science
(Single Award)

BUSINESS EDUCATION

- Office Procedures (General and Basic)
- Principles of Accounts (General and Basic)
- Shorthand and Typed Transcription (General Only) [not available after 2002]
- Typewriting (General and Basic)

HOME ECONOMICS

- Clothing and Textiles (General)
- Food and Nutrition (General)
- Home Economics: Management (General)

INDUSTRIAL TECHNOLOGY

- Building Technology (Technical)
[Option (1) Woods; Option (2)
Construction]
- Electrical and Electronic Technology
(Technical)
- Mechanical Engineering Technology
(Technical)

TECHNICAL DRAWING (General and Basic)

In many of the Senior Comprehensive Schools the following eighteen (18) Specialized Craft Courses are offered: Agriculture Craft, Air-conditioning and Refrigeration Craft, Automechanics – General Craft, Beauty Culture Craft, Cabinet-making Craft, Clerk-Typist Craft, Construction/Carpentry and Joinery Craft, Domestic Electronics Servicing Craft, Dressmaking and Design Craft – Basic Level, Electrical Installation Craft – Wireman, Machine Shop (Lathe Setter Operator), (Machinery Fitter, Masonry Craft, Plumbing Craft, Shorthand Craft, Food Preparation and Culinary Arts, Tailoring Craft, Typewriting Craft (45 w.p.m.) and Welding Craft.

As can be observed from the above, dramatic expansion of the technical vocational curriculum to include a large number of specialized craft and pre-technician courses began with the establishment of the senior comprehensive schools in the second half of the 1970's. The Specialized Craft courses, which are examined by the National Examinations Council (NEC), are aimed at training fourth and fifth form students in the skills, attitudes, and knowledge required for specific occupations. Success in the NEC examinations earns these students the National Craftsman Diploma which enables them to enter the world of work as full craftsmen. On the other hand, pre-technician courses are designed to provide both for academic and for practical-oriented training in four (4) different branches viz, Technical, Agriculture, Business Education and Home Economics. As indicated above, pre-technician students write the CXC Examinations. Successful students can then continue their studies at technician level at the Technical Institute (John Donaldson and San Fernando Technical Institutes) or move on through advanced level to the tertiary level.

Since its inception, Technical Vocational Education and Training at the secondary level, however, has been the subject of on-going debate. Many studies have been commissioned and several Ministry of Education and Cabinet-appointed Committees appointed to examine both the feasibility and desirability of providing, in particular, the Specialized Craft Courses. No less a source of concern has been the extremely low level of

achievement of the Senior Comprehensive students in the technical vocational subjects. The following concerns have been identified and addressed by the many studies and committees:

- (i) The lower level of student achievement in the CXC and NEC Examinations. This has been attributed to a number of factors including:
 - The quality of the student intake and the targets set. Many of the students placed in the specialized craft areas lack basic numeracy and literacy skills.
 - Lack of continuity. The consensus of opinion is that much of the Junior Secondary School Programme was initially (and still is) to provide a foundation for the Pre-technician programme (e.g. in Home Economics, Industrial Arts and Agriculture Science). The Junior Secondary Schools did not revise, upgrade nor expand their programmes to prepare their students to meet the needs of the Specialized Craft Courses at the Senior Comprehensive School. This resulted in the Junior Secondary school student being almost totally unfamiliar with the subjects offered at the Senior Comprehensive school.
 - State of unreadiness of the Junior Secondary School graduates. Most of the junior secondary students have not been properly prepared to meet the demands made upon them at the upper secondary level. Remediation programmes need to be put in place at both the junior and senior secondary school levels.

- (ii) Teacher Attitude and Performance. The following issues related to teacher competence in the technical vocational area have been identified:
 - The need for better communication skills on the part of the teachers.
 - The need for continuous in-service updating of teachers' understanding of the nature and function of technology in today's world.
 - Provision of opportunities for teachers to pursue programmes of study in tertiary institutions in Trinidad and Tobago without any disadvantage to students and without unnecessarily high cost to the system as a whole
 - Inadequate monitoring of teachers' work. Teachers are not supervised properly by either Ministry of Education supervisors, Principals or Heads of Department where these exist.

- (iii) The Technical/Vocational Curriculum must be revised and redesigned to reflect greater breadth and balance. In addition, overspecialization in distinct craft areas should be discontinued. In

response to industry's demand for 'multi-skilled workers', the technical vocational programme/curriculum should be based on 'vocational clusters'. Students will thus be prepared for entry into more than one field.

- (iv) Specialization at 14+. Should students (as now obtains) be compelled to make a career choice at age 14+, when they are generally not only too immature, vocationally, to do this intelligently, but they also lack the basic foundation skills and technical exposure necessary for success in their chosen career course? This question has been debated from the very inception of the Senior Comprehensive Schools. After a long period of ambivalence, the Ministry of Education has made a policy decision. Choice of career related to specialized craft courses will be delayed until the student has completed his/her secondary school career.

3.4.7.17 Present Status of Technical/Vocational and Technology Education

3.4.7.18 The Ministry of Education accepts and recognizes Technical and Vocational Education as an integral part of general education. While the official Technical and Vocational Education curriculum is designed to facilitate horizontal and vertical articulation within the school system, the Ministry of Education has decided on the phased repositioning of Specialized Craft subjects to a post-fifth form location. It has taken the position that early and narrow specialization (as currently obtains) is not in the best interest of the students.

Accordingly, **Technology Education** will be the new subject replacing specialized craft in Forms Four and Five. As a core component of the secondary school curriculum, "the Technology Education curriculum provides the opportunity for students to be exposed to and to make use of the knowledge, products and processes related to technology. This capability is needed to solve problems and develop systems, through innovations and modifications of the environment, in order to satisfy human needs and wants. It is expected that this new subject will be gradually phased in to all schools by the year 2007."

Technology Education will encompass the basic principles and content of the following three subjects which are offered at present at the lower secondary level in some schools: Industrial Arts, Home Economics and Agriculture Science. Secondary school students will now have the following Technical Vocational Education subject offerings:

- At Forms 1-3 (i) Technology Education I
- At Forms 4 and 5 (ii) Technology Education II
- (iii)CXC Technical subjects in:
- Agricultural Science
 - Business Education
 - Home Economics
 - Industrial Technology
 - Technical Drawing

3.4.7.19 Curriculum Delivery/Instruction At The Secondary Level

3.4.7.20 One of the main obstacles hindering the establishment of the seamless system, of which the main goal is the provision of quality education at all levels, is the current practice of curriculum delivery. The existing status of secondary curriculum delivery or instruction is reflected in the following characteristics:

- An emphasis on rote learning and memorization. The development of students' higher order thinking skills is almost totally neglected in the teaching/learning process.
- Traditional classroom teaching with the teacher as the instructor and students in a single and total group facing the teacher.
- The teacher as the sage on the stage rather than the guide from the side.
- An over reliance on chalk-and-talk lecture-style instructional approach to curriculum delivery.
- A teacher-centred approach to curriculum delivery - Freire's 'banking' concept. The teacher makes 'deposits' of learning into the students' "learning account". Students are empty vessels to be filled by the teacher.
- Limited use of educational technology.
- Inadequate and unsuitable furniture and equipment.
- Insufficient time-table hours for the major subjects (English, Spanish, Mathematics, Science and Social Studies) in the Junior Secondary School.
- The limited use of student projects (both individual and group) in developing higher order thinking skills such as problem-solving and creative thinking skills.
- Lack of multimedia facilities and adequate library facilities.
- Inadequate monitoring, supervision and evaluation of the activities of teachers in classroom implementation of the curriculum.

3.4.7.21 Assessment At The Secondary Level

3.4.7.22 References to the various methods of assessment employed and examinations taken by secondary school students have been made earlier in this Paper at (xvi) of Section 2.6.4 under Certification of Achievement, 2.8.6 and Sections 3.2-3.7. The reader is referred to those sections of the Report for a snapshot of the existing methods of assessment utilized and examinations taken at the secondary level. Here, the Paper will limit itself to reminding the reader of the authors' main observations in this regard.

At the secondary level, the principal methods of assessment are based on the following examinations:

- **Junior Secondary School – the 14+ Exams**

This is a ritual examination, as mentioned earlier. It serves no real purpose. However, it is apparently intended to assess students achievement in the various subjects taken at this level after three years of secondary school.

- **At the upper secondary level**

The CXC Examination and the NEC Exams are taken at the end of five years. The NEC Exams are set for the Specialized Craft courses whereas the CXC Exams are taken by students pursuing the academic and pre-technical course.

After an additional two years student sit the Cambridge Advanced Level Examinations in mostly the academic subjects.

The CXC General Proficiency and Basic Proficiency Level Examinations are designed (it is claimed) for the top 40% of the ability range. The CXC General Proficiency Level Examinations are the equivalent of the GCE (since replaced by the GCSE) Cambridge 'O' Level Examinations. The CXC Basic Proficiency Level Examinations are designed for students who have a special interest in certain subjects but who do not wish to continue their studies in those subjects. Success in the CXC General Proficiency Level Examinations is a pre-requisite for admission to the Cambridge 'A' Level Examinations which are to be eventually replaced by the Caribbean Advanced Proficiency Examinations (CAPE) which are at present being piloted in several subjects in a small number of secondary schools. Advanced Level Examinations "passes" are usually required for admission into University.

As stated earlier (see Sections 2.8.6, 2.8.7 above), these examinations are norm-referenced. They do not indicate what students know and are able to do after five years in the case of the CXC Examinations and seven years in the case of the Cambridge Advanced Level Examinations. Moreover,

there is enormous wastage of human resources at this level because the majority of students fail to obtain five ‘O’ Level passes – considered as successful “graduation” at the secondary level.

Indeed, in an effort to reduce this wastage and to certify student achievement at the secondary level, the National Certificate of Secondary Education (NCSE) is being developed. Students will still be allowed to prepare for the CXC Examinations. However, the NCSE is expected to be competency or standards-based and to adopt a criterion-referenced approach to testing. It will include a schools-based (internal) continuous assessment component as well as a standardized external examinations component. Using a credit system as well, the students who satisfy the NCSE requirements will be deemed to have successfully met the graduation requirements for obtaining what may be considered a High School Diploma.

Clearly, as submitted earlier in this Report (see Section 2.8.2, 2.8.7, 2.8.8, 2.8.9, 2.9.10, 2.8.11, and in particular Section 2.8.13 above), the establishment of a truly seamless system of education and training for Trinidad and Tobago lies in the direction that the NCSE is taking. Moreover, tied to a National Qualifications Framework (NQF) (see Section 2.8.8 and 2.8.13), assessment and certification of student achievement at the secondary level, will then be closely aligned to the principles and objectives of such a system (see Section 2.5 above).

3.4.8 Summary Observations On The Secondary Level And The Secondary Education Modernization Programme (SEMP)

In the preceding sections related to a review of the secondary level of the education system several aspects were highlighted as requiring particular consideration in establishing a seamless education and training system.

The secondary level of the education system shares the need, in common with the other levels/sectors of the system, for other essential input elements (see Section 2.6.4 above and Figure 1 - Inputs Dimension of the Conceptual Framework) to be seriously addressed as we seek to create a seamless system: National Education Goals, Standards and Indicators, Data/Information Requirements Professional development and programmes for all levels of education personnel, School/Teacher/Student Support Systems, Access Mechanisms, Accountability Systems, Governance Structures, and Mechanisms for Collaboration/Communication/Information.

In this regard, the authors note that the Ministry of Education has embarked on an ambitious and far-reaching education reform programme designed not only to address but also to resolve most of the concerns/problems related to secondary education which have been identified in this Paper. Indeed, in line with the position taken in this Paper, the Ministry of Education has recognized that a comprehensive, holistic approach must be taken if the goal of quality education for all is to be achieved. The major vehicle of the Ministry's current education reform effort is its jointly funded Government of the Republic of Trinidad and Tobago (GORTT) and Inter American Development Bank (IDB) project – the Secondary Education Modernization Programme (SEMP) earlier mentioned in this Position Paper.

It is relevant to summarize here the main components and objectives of the SEMP. The Programme “forms part of Government's overall long-term strategy for the reform and modernization of the secondary level, through which government hopes to maximize human resource development in terms of both quality and quantity through quality education and increased equity (universal access to education)”. In particular, “Government seeks to universalize secondary education and to ensure that all students are allowed to follow programmes that will enable young people to obtain a secondary school diploma based on demonstrated competencies. The programme at the secondary level is intended to ensure “the acquisition of the essential levels (of learning), and more, of literacy and numeracy supported by and incorporating mastery learning, analytical and entrepreneurial skills and creativity.” This is an important objective in the context of seamless education as it is aimed at providing “the necessary conditions for post secondary and lifelong learning, obtaining employment, retraining and career enhancement.”

The principal thrust of the SEMP is to support the efforts of the Ministry of Education to initiate a deep institutional and pedagogic reform of the secondary sector. The Secondary Education Modernization Programme includes the following objectives:

- (a) to universalize five continuous years of equitable, high quality secondary education.
- (b) to reform the educational context and teaching methods to meet the needs of a modern, skills-based economy; and
- (c) to develop a more efficient management of resources, while strengthening the capacity of the Ministry of Education at the central, regional and local levels.

The SEMP seeks to modernize the present secondary sector and to achieve its Programme objectives by implementing four well-articulated components:

- (i) **Qualitative Improvement** which aims at a modernized curriculum with modern approaches to delivery of subject matter, supported by a cadre of professionally developed teachers and administrators and sound testing and assessment methods;
- (ii) **Deshifting, rehabilitation and upgrading of existing secondary schools** which aims at providing universal education with equity. In this scenario, all students will enjoy at least five (5) years of continuous secondary education in single shift 5/7 year schools;
- (iii) **Institutional Strengthening** by which the Programme will strengthen the capability and capacity of the Ministry of Education (MOE) to engage in policy analysis, policy reform and implementation so as to engage transforming the MOE into an organization capable of change management and continuous renewal and modernization; and
- (iv) **Studies for Improved Sector Performance** through which the MOE will identify lags and means of improving its performance.

3.4.9 Concluding Recommendations – Secondary Level

The authors of this Paper endorse and support the goals, objectives and general approach of the SEMP as key to improving the quality of secondary education. We are of the considered view that this Programme, if it is efficiently and effectively implemented will go a long way in meeting the requirements of a seamless education and training system as identified earlier in this Paper (see, in particular, Section 2 above). However, we wish to point out that the SEMP, in its wider sense, needs to place greater emphasis on the following issues:

- **Equity.** The playing field can only become level if (a) there is a greater mix of students with varying levels of ability and achievement assigned to all secondary schools. In other words, at the junior and secondary schools (when they are converted) the student population profile should reflect a greater number (than exists at present) of high achieving students and students from higher income level families. Equally, the teacher population profile at all schools should be closer to the profile of teachers at the denominational schools with respect to attitude, academic and professional qualifications (see Section 3.4.7.10-3.4.7.13).
- **Governance Structures.** Every effort should be made to unify the diverse governance structures which now prevail (see xvi of Section 2.6.4 above).
- **Technical Vocational Education.** The technical vocational (including the Specialized Craft courses) programmes and the proposed Technology Education programme need to be carefully reviewed in the light of (a) preparing students for the world of work as well as for further education and (b) articulation between secondary and post-secondary technical vocational programmes; and (c) the need for the National Training Agency (NTA) and

the Ministry of Education to have a common approach to technology, education and technical vocational education and training.

- **Accountability System.** There is a compelling need for an effective accountability system to be established at all levels of the system. However, at the secondary level this needs appears greater and must be met if seamlessness is to be realized.

The authors' final comment on the secondary level is that the SEMP, which at the moment seems to be faltering in its implementation and which appears to be perceived as an 'add-on', as just another project, must become more fully integrated into the secondary education system and operations. It must be seen as the core business of the Ministry of Education that lies at the heart of its day-to-day operations.

3.5.0 Special Education – Overview

3.5.1 The Draft Policy on Special Education seeks to ensure the inclusion of students with special educational needs in the regular education system and to provide for the needs of these students through activities that flow from the following goals:

- Creation on all inclusive education system which provides for the full integration and participation of all students;
- Provision for teacher education, training and development that provides for understanding of the special educational needs of students – and for the remediation of the problems which students may encounter in the teaching/learning situation;
- Promotion of opportunities for the development of the full potential of all students including those with special educational needs;
- Ensuring understanding of the special educational needs by all of the stakeholders in the education system;
- Provision to every student the opportunity to make a positive contribution to the society of which he/she is an important member.

3.5.2 Situation Analysis

Special education is still not seen as an integral part of the country's educational system. As a result there is no coherent approach to identifying students with special educational needs and the formulation of the necessary strategies for meeting the varied needs of this group. The Ministry of Education currently categorises children with special educational needs as:

- ◆ Children with deficits of learning, vision or mobility but without serious intellectual or emotional problems;
- ◆ Children who are educationally disadvantaged;
- ◆ Children with significant learning difficulties;
- ◆ Children with emotional or behavioural difficulties;
- ◆ Children who are gifted and talented.

In addition to those students with easily recognisable disabilities, there are three other groups who merit special attention. They are:

1. A very sizeable group (estimated by some researchers at almost 50% of the primary school population who may experience difficulties largely because of sensory disabilities such as vision and hearing impairments that can remain undetected and contribute to poor academic achievement in spite of the fact that these students are of normal intellectual ability.
2. A second group (estimated to be in the region of 25% of the primary school population who may be classified as being intellectually below normal. This group described as being mentally retarded would until recently have left school before or at the completion of their primary school education.
3. A third, but very much smaller group (estimated at 2% of the primary school population) may be considered to be gifted and/or talented and have cognitive abilities that far exceed normal expectations.

3.5.3 In order to ensure the full integration of special education into the educational and training system, the following recommendations should be vigorously addressed:

- Provision of the necessary legal framework to ensure that the fundamental rights of all persons with special educational needs are upheld;
- Provision for the early identification of students with special educational needs.
- Ensuring that every student with a special educational need is allowed to develop to his/her fullest potential.
- Provision of all the resources and the support services required to ensure that every student with special educational needs can have these needs met wherever he/she attends school.
- Ensuring that every teacher in the education system is aware of the policy of inclusion and its ramifications and can adequately assist in the provision of education for students with special educational needs.
- Sensitizing the general public including students attending school of the nature and needs of students with special educational needs.
- Increasing the employment opportunities for school leavers with special educational needs in the public and private sector and for those seeking self employment; and

- Provision of support for the families and communities to ensure the well-being of students with special educational needs.
- Mandating the education of all students with special educational needs at public schools.
- Regulating the planning and construction of all public buildings, including schools and other places of learning to enable access of all persons with disabilities.
- Passing of legislation, which encourages the employment of persons with disabilities and access to the job market.
- Creation of a Public Transportation Policy which addresses the needs of students with special educational needs and persons with disabilities.
- Provision of the appropriate personnel and equipment for the assessment of students at all levels of the education system.
- Provision for the inclusion of students with special educational needs at every level of the education system.
- Provision of school places in public schools for every student with special educational needs.
- Creation of a system which allows for the continuous assessment of students with special educational needs and which ensures the positive impact of intervention strategies.
- Formulation of national goals that allow each learner to advance at his/her own pace through all levels of the educational system.
- Increasing the staff of the Special Education Unit, Ministry of Education to allow for the proper management and supervision of the education of students with special educational needs.
- Establishment of a national Diagnostic Prescriptive Service.
- Conversion all of the existing special schools to Special Education Resource Centres.
- Establishment of a Special Education Resource Centre in the Education Districts of Caroni, North Eastern and South Eastern.
- Ensuring the accessibility of all schools and places of learning to all students with special educational needs.

- Identifying all teachers at every level of the education system who are qualified to serve as resource teachers in the area of special education.
- Expansion of the programme offered at the Teachers' Training Colleges to ensure that special education is offered as compulsory core area.
- Creation of the position of Curriculum Officer in the Division of Curriculum development with responsibility for special education.
- Provision of in-service Special Education Programmes for teachers at each Education District.
- Establishment of degree level programmes in special education at the University of the West Indies.
- Creating of an Awareness Programme aimed at sensitizing all of the stakeholders in education and the general public on all aspects of special educational needs.
- Provision of employment, education and training opportunities for every student with special educational needs.
- Modification of existing Adult Education Centres and programmes to allow for participation by students with special educational needs.
- Modification of all facilities and programmes, which provide training and skill development to allow access by students with special educational needs.
- Provision of Parent Education and Support programmes.

3.6.0 Overview of Post-Secondary Tertiary Sector

3.6.1 In the past, Trinidad and Tobago was able to tolerate a relatively low rate of participation in tertiary education which is one of the outcomes of a haphazard and fragmented approach to school to work transition and adult learning. But today, the waste in human potential that results can no longer be afforded.

3.6.2 Unlike in many countries where there is clarity of definition of the level beyond the secondary level, in Trinidad and Tobago there is still a lack of consensus in the use of terms used to categorise programmes and institutions which operate in what can be broadly termed the post-secondary sector. The terms, in general use are post-secondary, tertiary and higher education, a term which the University of the West Indies uses to define its activities.

3.6.3 In the local context post-secondary education defines in the broadest sense all programmes, public and private that cater to adults or adolescents who have left the formal secondary school system. This definition includes almost everyone outside of the formal school system including those providers geared towards remedial, adult and community education programmes intended to meet the needs of a population, some of whom are functionally illiterate. The term post-secondary can also include providers who are not part of the formal school system but who offer technical/vocational education and training programmes at “level 1 and level 2” as defined by the National Training Agency.

3.6.4 Genesis of Post-Secondary Sector

Successful secondary school completion in Trinidad and Tobago is equated with the achievement of passes at an acceptable level in the CXC General Examination in five subjects including English and Mathematics. A conservative estimate of student achievement in those exams is that only about forty (40) percent of students who sit these exams achieve this standard. If five (5) CXC passes at an acceptable level including English Language and Mathematics are the standard the reality is that the majority of secondary school students do not attain this standard.

The sector referred to as post-secondary, therefore, owes its existence principally to the large number of secondary school students who leave school unprepared for tertiary education and the world of work. Over the years, a number of programme such as YTEPP, SERVOL, have been established under the aegis of state and private bodies to meet the needs of this group. These various post-secondary initiatives are generally not centrally coordinated and contribute little to the effort towards better sector coherence. Above all, they do not articulate with programmes at the tertiary level.

This is an area in which various government ministries abound each with a tradition of delivering instructional programmes specific to their needs. In meeting these needs some of these ministries such as the Ministry of Health offer not only post-secondary programmes but tertiary level programmes as well in various areas such as nursing. The Ministries of Youth, Culture, Labour, Agriculture, Science, Technology and Tertiary Education are all involved in the delivery of instruction at the post-secondary and tertiary levels. The major problem in the offerings is that they are basically stand-alone initiatives informed by no mutually agreed national standards or quality requirements.

3.6.5 A characteristic of this level is the lack of academic preparation of students in core subjects - Mathematics, English Language and Natural Sciences. This problem cannot be viewed in isolation from the teaching/learning process at the primary and secondary levels where instruction still tends to favour rote learning at the expense of interactive learning, the development of abstract thinking and research and problem solving skills. These are attributes required of tertiary students as well as skilled employees and which necessitate a broader and

deeper understanding of both seamlessness and articulation in an educational and training context and of technical/vocational education in particular.

In summary, while there will always be some fallout from the secondary sector, the current post-secondary sector distinct from the tertiary sector needs to be recognised as a sector that has grown mainly through a combination of negative circumstances. Therefore, every effort should be made to reduce its size through a more effective teaching/learning process at the elementary and secondary levels. Until the improved quality of education at the elementary and secondary being to have a positive impact on this situation it will be necessary to focus on remediation in core areas at the tertiary level. This would go a long way towards a fuller integration of the post-secondary sector through articulation with both the secondary and tertiary levels.

Tertiary Level

Tertiary Education is defined as education and training that requires a CXC General Proficiency background in at least four (4) CXC subjects including English Language and Mathematics. The tertiary sector comprises public institutions such as UWI, COSTAATT, the University of Trinidad and Tobago, Trinidad and Tobago Hospitality Institute, and Cipriani Labour College, among others. There are a number of private TLIs, the majority of which offer programmes leading to awards of foreign higher education institutions principally British, Canadian and to a lesser extent American. These programmes are both at undergraduate and post-graduate/graduate level. Some foreign higher education institutions simply offer their programmes without any linkage whatsoever to a local affiliate. The critical issue here is that while it can be argued that these programmes contribute to CARICOM mandate tertiary education participation rate of fifteen (15) percent by the year 2005, the current uncoordinated nature of this expansion does not augur well for capacity building particularly in the areas of science and technology.

3.6.6 Status of Existing Post-Secondary and Tertiary System

The current system of education and training including the re-training of adults and out-of school youth is a patchwork of public and private efforts. It includes post-secondary Technical Education and Vocational (TVET) providers under the purview of a number of government ministries and private providers – the Ministries of Health, Labour, Agriculture, Education, Public Administration and Information, Energy, Youth and Culture and Science, Technology and Tertiary Education (MSTTE), SERVOL and numerous other private tertiary education providers. The sector comprises as well institutions such as the Trinidad and Tobago Institute of Technology (TTIT), Metal Industries Company Limited (MIC), and the Trinidad and Tobago Hospitality Institute (TTHI), which operate as private institutions but are in receipt of government subventions. (See Figure 3).

3.6.7 In this scenario of overlapping ministerial jurisdictions and ineffective coordination of institutions and providers notwithstanding the existence of a tertiary education portfolio, the various ministries that have post-secondary and tertiary education in their remit generally operate with at best only nominal reference to the MSTTE as a coordinating body. The current remit of the MSTTE, therefore, needs to be strengthened and clarified in law to enable it to play the effective coordinating role that is needed to operationally put an end to the fragmentation which still characterises the sector. In the context of the existing situation such fragmentation is not to be positively equated with decentralisation.

3.6.8 Administrative Fragmentation

Confusion persists among the public, administrators, training providers and ministries as to who is in charge of post-secondary and tertiary institutions. Line ministries are sometimes difficult to ascertain - which makes data collection on matters such as enrolments, revenues/expenditures and ultimately accountability extremely difficult to address in a systematic way. Providers such as Cipriani Labour College, MIC and NESC/TITT, which are supposed to “operate” under the MSTTE’s purview in academic and administrative issues appear to derive their funding from other ministries (i.e. Ministry of Labour, Ministry of Planning and Development, Ministry of Energy). This anomaly is a major impediment to the development of seamlessness in the post-secondary/tertiary sector. Further contributing to this anomaly is the involvement of the MSTTE in programme delivery at the post-secondary level. For example, the on-the-job training initiative is an example of such involvement which can impede the effective discharge of the MSTTE’s coordinating and management responsibilities and functions in the post-secondary/tertiary level sectors.

3.6.9 It is common for election cycles to influence shifts of providers from one ministry to another for reasons that are not always clear to the stakeholders. In addition, multiple school to work programmes exist within a wide range of ministries. The goals of these programmes and target populations may appear similar but there is frequently no coordination across ministries in implementation. This practice creates unnecessary and costly duplication regarding programme content and programme implementation which costs have to be borne by both the state and the individual. The concomitant lack of articulation with other programmes, a marked feature of these programme offerings, also leads to considerable disappointment and frustration among graduates. Government needs to decide who is responsible for what. (Figure 3) shows the various ministries involved in post-secondary and tertiary education, and highlights the urgent need for an effective coordination and management mechanism.

3.6.10 Limitations of Current Structure

The Post-secondary and tertiary sector as it is currently constituted cannot effectively address the strategic widening of tertiary education access and the necessary increase in the rate of expansion in tertiary education. The sector currently operates as a decentralised system which is seen by some in a positive light as they equate the current laissez-faire situation with a system that is market driven. However, while decentralisation in certain circumstances can have beneficial effects, at this stage in the development of the country's tertiary sector, fragmented and uncoordinated as it now is, the decentralisation as it currently manifests itself in the education and training system nationally is largely responsible for many of the seams in the sector and reinforces the outmoded tradition of each ministry acting unilaterally in organising and delivering post-secondary and tertiary programmes on the basis of its own notions of need, quality, standards and relevance. This is usually done in the absence of a shared sector and national vision and goals. Therefore, in the interest of facilitating, accountability and articulation among providers as well as creating the conditions for proper strategic planning for the sector, it is imperative that the various ministries involved in tertiary education be required to re-assess their traditional involvement in running tertiary education institutions and delivering programmes other than staff development initiatives.

3.6.11 Systemic Weaknesses

The conditions created by weakness in the area of policy, planning and coordination are not the type of foundation which can readily support the widening of access to quality tertiary education and training. Neither the establishment of the Accreditation Council of Trinidad and Tobago (ACTT), nor the creation of the MSTTE as discrete developments will bring about the required changes. Accreditation cannot singularly facilitate seamlessness in the absence of commitment and resolve at the highest level to instituting the necessary reforms in governance and management of the sector.

3.6.12 Accreditation is not likely to contribute significantly to the development and sustainability of a seamless education and training system if it is not implemented as part of a process of major reform in post-secondary education. Issues such as the need for clear official recognition of terms such as "certificate", "diploma", "Associate Degree", "Bachelor's Degree", Master's Degree, and other certification labels must however be addressed from a much broader perspective than official recognition of qualifications in order to facilitate the development of a culture of quality and as well as horizontal and vertical articulation in the post-secondary/tertiary sector. These are virtual prerequisites for maximising the potential and effectiveness of the national accreditation body. The current way in which the post-secondary/tertiary sector is organised in terms of its fragmentation makes the achievement of this objective less likely.

3.6.13 The expansion of tertiary education envisioned cannot be realised in a context where there is no shared understanding of accreditation standards and where multiple accreditation bodies claim the right to set their own standards and establish Qualifications Framework and Schemes. In this regard, it will be necessary to arrive at a common understanding of the NTA's purview in the accreditation process based on wide consultation with all the relevant stakeholders. The place of the National Examinations Council (NEC) in the context of both ACTT and the proposed National Qualifications Framework (NQF) must also be addressed at the highest levels in order to ensure their orderly integration into a well-coordinated tertiary system of tertiary education and training in which a high premium is placed on quality.

3.6.14 Articulation

Lack of vertical and lateral articulation is a major impediment to meaningful tertiary education expansion. Some of the factors which contribute to this hurdle were discussed earlier at the programme and curriculum level. A major problem is the idiosyncratic approach to programme structure in terms of "contact hours", "credit hours", "modules", "courses", "terms", "semesters" and "quarters". Even among those using semesters, no shared understanding exists on programme requirements for awards such as the Associate degree, Bachelor's degree, etc. There is also no common or official concept on what it means to be "a full-time" or "part-time" student. Such understanding is central in funding policy at the post-secondary level in the context of widening access and increasing the rate of participation in tertiary education. It is also central to lifelong learning.

3.6.15 This lack of agreement together with multiple programme structures adds to the existing confusion and common perception that one's own programme has higher entrance and graduation criteria than those of competing providers. For instance, students often enroll in certain programmes with the expectation that a certificate/diploma earned will enable them to gain admission (or even transfer credit at other institutions) in order to earn a higher-level degree. This expectation is frequently not realised because private and public providers customarily disregard credentials earned at other institutions. This practice among tertiary providers is exacerbated by the continuing academic/technical and vocational education divide. This division also has a detrimental impact on labour force mobility as it locks employers and employees into firm specific and employment paths. Above all it is not consistent with the concept of an effective seamless education and training system.

3.6.16 General Education, Skills Development and Technical/Vocational Education

According to a 2002 ILO Report, the trend internationally is to integrate vocational and general education through merging various types of educational institutions by increasing the general studies content of vocational streams or by integrating vocational studies into upper secondary education. In this integration, the emphasis is on the development of general, portable skills. Examples of such

portable skills are English Language, Mathematics, Natural Sciences and Information Technology. In the country, at the present time, the wide range of programmes purporting to be technical/vocational and skills - based both at the post-secondary and tertiary levels have no common general education core. This, together with the unilateral approach to decision-making the post-secondary/tertiary education sector makes the establishment of a seamless education and training system more difficult to achieve.

3.6.17 This situation does not facilitate lifelong learning and is a major seam in articulation between the secondary and post-secondary and tertiary levels where in addition to hands-on competence, tertiary institutions require evidence that people seeking admission have the general education competencies needed in various programmes including technician and technological level studies. It also makes articulation difficult between the post-secondary and tertiary levels because the competency approach as it is conceptualised and implemented locally through the TTNVQ framework needs to reflect greater understanding of the importance of core and portable skills in such frameworks. The framework can undoubtedly benefit from a broader discussion of this significant development among stakeholders. This situation can be achieved through effective coordination and facilitation by the Ministry of Science, Technology and Tertiary Education.

3.6.18 Modernizing Apprenticeship

Workplace change, technological innovation and the associated need for skills upgrading generate demand for higher technical and specialist skills combined with an understanding of the broader economic and social context of occupations, work and industry. In many developed countries, attempts to broaden the content of apprenticeship learning and training have resulted in expansion of the contextual part of the learning. The emphasis in this area has been on replacing the narrow, craft-based apprenticeship of the past with learning situations that can take place in different work contexts, the public sector, enterprises, universities, etc. The new thrust combines theory with practice is broader in scope, and covers a vast array of qualifications. Slowness in bringing these new developments to bear on technical vocation education in this country and the wider region will most likely further contribute to a diminution in the international competitiveness of the country's labour force and stymie the career mobility of our technicians and craftsmen who undoubtedly need to have a much stronger foundation in Mathematics, Science and Information Technology.

3.6.19 In the necessary reforms in education and training content, Science in a rapidly evolving international context, private provision has an important role to play. This devolution of training provision means that the state's activities must increasingly focus on national co-ordination in the larger context of regional developments, providing the necessary legal, management, education and training frameworks as well as quality and standards measures which are prerequisites for the functional operation of a seamless system.

3.6.20 Teacher Education – A Part of the Tertiary Sector

Another example of the fragmentation of Tertiary Education in the country is the fact that teacher education although being at tertiary level continues to fall under the purview of the Ministry of Education (MOE). While the MOE will always be a principal stakeholder in Teacher Education, Teacher Education needs to be placed under the aegis of the Ministry of Science, Technology and Tertiary Education (MSTTE) so that it can be effectively developed as a tertiary education discipline. Teacher preparation and performance are a most critical factor at all levels of the educational system and are at the very heart of the seamless imperative in all of its dimensions.

3.6.21 The Teachers Colleges must become part of the country's tertiary education sector and their curricula in terms of structure and content must be informed by general tertiary level curriculum guidelines pertaining to programme structure, length and content that inform the development and delivery of all tertiary level programmes in the country.

3.6.22 An effective pre-school to tertiary level seamless system of education and training requires as state policy a continuing state emphasis on improving teacher preparation programmes that include all constituencies involved in teacher education. There is ample evidence based on National Examinations Council (NEC) results over the years, and in particular the high annual failure rate of students who sit these examinations that the country needs to play closer attention to the academic and professional qualifications of the faculty at the post-secondary and tertiary levels. There seems to be little or no awareness of this critical teacher factor in the plans to increase and widen access to tertiary education.

3.6.23 Substantive changes are therefore, required in teacher education. Such changes have been recommended in the 1993-2003 White Paper on Education and are at the heart of teacher education reform considerations. The following are some of the key recommendations:

- (a) A well-articulated and fully coordinated system of teacher education must be developed. It must encompass programmes for the preparation of teacher educators and all in-service and pre-service programmes and courses for the professional development of administrators, teachers, teachers' aides and caregivers. This would facilitate the establishment of:
 - (i) standards for courses and programmes; and
 - (ii) equivalence amongst courses and programmes.
- (b) Registration and recruitment practices must reflect a resolve to attract and retain competent and motivated individuals. The current practice of registering teachers on the basis of five CXC/GCE subjects should be terminated forthwith. The present

procedure should be considered merely as an application by the individual to become a teacher.

- (c) Short, intensive courses should be organised to meet the need of beginning teachers who have no initial teaching training and for teachers who re-enter the profession after a long absence.
- (d) Continuous training of primary and secondary school teachers should be firmly established through the following programmes:
 - Certificate in Education (Special areas);
 - B Ed (This should involve three years of study and practice beyond the certificate);
 - BA/B Sc Dip Ed – a four-year conjoint degree through which persons who wish to teach should attain their initial teacher training.
- (e) The Teachers' College programme should be reorganised on the basis of modules and units to allow for greater flexibility in organisation and delivery of its four major components consistent with the general standards and criteria for awards in the tertiary sector.
- (f) There should be a major thrust in the preparation and training of teachers in the areas of Art and Craft, Physical Education, Drama, Dance, Music and Technology Studies if the expressive arts and creative and imaginative talents of our nation are to flourish.

A school for the Arts should be established to prepare teacher educators in the realm of the aesthetics. Such a school should have a broad-based curriculum including the Performing Arts, the Visual Arts, Creative Arts including prose, poetry and play writing. (National Advisory Committee on Education made this proposal in 1989). It should now be reconsidered, costed and pursued in partnership with interested private sector groups, associations and benefactors).

- (g) The recruitment policies, staff development opportunities, career trajectories and compensation packages for Teacher Educators must be reviewed and revised so as to attract and retain individuals of the highest quality.

A 'Joint Board of Teacher Education' with representation from all institutions involved in Teacher Education should be established. It should have as its remit, the review, articulation and coordination of all teacher education programmes.

Although this is not part of the White Paper recommendations, the Joint Board should fall under the purview of the ministry responsible for tertiary education.

- (h) Remuneration for teachers/lecturers in the post-secondary/tertiary education sector should be reviewed and considered given to the retraining and productivity enhancing reforms.
- (i) Many teachers in the post-secondary/tertiary sector are not adequately prepared to carry out their teaching responsibilities. Greater emphasis must be placed on professional development for this sector and on recruitment policies which result in a better quality of staff.
- (j) Teacher education should be rationalised. Teacher education programmes in the non-university sector should be articulated with the Bachelor of Education programmes at UWI. In the non-university further education sub-sector, the feasibility of merging the ECIAF Teacher Training Unit and the Technical/Vocational Teacher training unit at the John S. Donaldson Technical Institute with operations at the Valsayn Teachers' College should be examined. Consideration should be given to the development of a rationalised teacher education organisation with Technical/Vocational porogramming as special departments indicative of a particular area of specialisation.

A specialisation in technical/vocational and technology studies teacher training at the Bachelor Degree level should be developed at the UWI with the first two years of that programme constituting the certificate in this area.

- (k) Adult Education should be included as an area of specialisation at UWI (Faculty of Education and School of Continuing Studies) and in the rationalised Teacher Training institution.
- (l) In collaboration with other relevant institutions, (that is the constituent units of the reorganised teacher training institution and the Faculty of Education, UWI) the RCLRC should establish a computer facility for the training of teachers in Computer Education.

3.6.24 General Recommendations – Tertiary Level

1. The Ministry of Science, Technology and Tertiary Education (MSTTE) and the Accreditation Council of Trinidad and Tobago (ACTT) must develop clear standards with respect to entry requirements and the length of tertiary programmes, the successful completion of which earns students a “certificate”, “diploma” or other tertiary degree. These standards should be binding for private and public providers and be linked to the accreditation process. The use of degree labels must have its basis in legislation and be constantly monitored in order to make the articulation process transparent to all stakeholders.
2. A conversion system for measuring part-time and full-time programmes (e.g. contact hours, credit hours, number of total courses/credits needed to earn a specific credentials/need to be established. The North American system in which 15 contact/classroom hours equal 1 credit hour with workshop components subject to different regulation may be considered.
3. The MSTTE should be empowered to require that accredited public and private providers recognise each other’s credentials for admission as well as transfer credit.
4. Accredited post-secondary programmes aimed at populations with basic academic/skill deficits should be required to design programme structures and content so that the competency levels aimed for includes subject specific CXC standards.
5. Providers should be required to explain clearly and in writing to applicants as well as current students the worth of the credentials they are working towards for other providers and potential employers.
6. Successful articulation can also be based on measuring training in terms of years of full-time training required to earn a particular credential.
7. Because one of the main purposes of uniform accreditation standards is to facilitate articulation across providers only those institutions/providers offering programmes at levels 3 to 5 should be eligible for accreditation as tertiary providers. Level 1 & 2 programmes should conform with secondary school standards.
8. In the interest of effective management of the tertiary sector and in facilitating accountability and articulation, the various ministries currently involved in tertiary education need to reassess their traditional involvement in running specific institutions. Government needs to commission an in-depth study of those post-secondary schools to work programmes that are funded wholly or in part by various ministries,

operate at training levels (National Training Agency (NTA) classification), and may or may not be recognised by employers nor result in a credential recognised by tertiary providers.

9. The roles of all the principal stakeholders in tertiary education including the Ministry of Science, Technology and Tertiary Education with particular reference to policy, planning, management, governance and accountability should be clearly defined.
10. The public tertiary education sector needs to be further rationalised beyond COSTAATT a major step towards the creation of a coherent and seamless tertiary education sector.

4.0 Core Issues/Challenges Facing The Design Implementation And Evaluation Of A Seamless System For Education And Training in Trinidad and Tobago

4.1 A careful reading of the preceding sections of this Report- in particular: Section 1.2 – Concept of a Seamless System of Education and Training, Section 1.3 – Rationale/Context of a Seamless System of Education and Training and above all, Section 2.0 – Main Elements of a Framework for a Model Seamless System and Section 3.0 – Overview of the Existing Situation at Each of the Five Levels of the Education System – would or should have yielded a clear identification of the core issues and/or challenges facing the design, implementation and evaluation of a seamless education and training system in Trinidad and Tobago.

4.2 Some of these major core issues/challenges related to Terms of Reference 1.1.1 (iii) are summarised below:

- The need to expand coverage and access at the pre-school level while taking concrete measures to improve the quality of education offered at this level.
- The need to focus on the quality of output at the primary level – students who have acquired basic skills (for example, reading and writing skills) to enable them to benefit from secondary education – primary school graduates properly prepared – ready for secondary education.
- The necessity to establish standards of achievement expected at the end of the primary and other levels of the education system and corresponding performance indicators and assessment measures.
- The critical importance of establishing information/research communication systems for improving collaboration and communication, as well as for tracking students’ achievements/performance.
- The need for improved articulation and coordination of curriculum, instruction, content, assessment measures and practices among the five levels of the system – ensuring connectedness of pre-school, primary, secondary, post-secondary and tertiary levels of the system.

- The need to establish a rational and harmonious system of certification and accreditation of student achievement at all levels of the system.
- The absolute requirement for an accountability system to be put in place.
- The clear requirement for a review and revision of governance structures which have legislative support.
- The provision of a continuous, systematic programme of professional development for all levels of education personnel.
- The need to review and streamline the secondary school system with its five different types of schools.
- The need to reduce the wastage at the secondary level with its huge dropout rate and high percentage of examination failures (NEC, CXC Exams).
- The need to strengthen existing school/teacher/student support systems.
- The need to address student underachievement in general and male underachievement in particular at all levels of the education system.
- The need to address more aggressively and with greater speed the problem of an regulated post-secondary tertiary level sectors.
- The need to address once more the issue of technical/vocational education – its nature, purpose, place in the secondary school system.
- The need to standardise and regulate the vast range and number of technical/vocational programmes being currently offered by a multiplicity of providers – both private and public.
- The challenge of unifying a fragmented, disconnected education system which especially bedevils the secondary, post-secondary and tertiary levels of the education system.
- The need to supply adequate resources – human, physical, technical and financial – a critical requirement to be met in providing quality education at all levels.
- The need, in designing the curriculum and in selecting teaching/learning activities, to take into account the characteristics of the individual learner (including their learning styles, learning difficulties/disorders, gifted learners and slow learners).
- The issue of increasing student violence and indiscipline at the secondary level.

The nature of the preceding core issues would suggest that the way forward requires a concerted simultaneous attack on several fronts – removing existing impediments to quality education while simultaneously putting in place the concrete measures needed to give effect to the implementation of a seamless system.

5.0 Conclusion/Recommendation – The Way Forward

5.1 The authors of this Paper are cognisant of the various initiatives currently being taken to improve the quality of education in Trinidad (for example, initiatives being taken by the Ministry of Science, Technology and Tertiary Education and by the Ministry of Education). However, we are of the opinion that these are piecemeal interventions. What is needed is for all of these reform and improvement projects/initiatives to be brought together under one umbrella. What is required is a holistic, comprehensive approach to the total reform, restructuring and reorganisation of the education system and the implementation of agreed upon reform objectives, strategies and measures.

5.2 It is for this reason that we are not inclined to submit a series of discrete recommendations. We view a series of discrete recommendations as possibly leading to further fragmentation and sterile compartmentalisation of needs, weaknesses and gaps which can not be overcome by such means. Accordingly, the authors propose a way forward that is implementation-oriented. What follows is basically a proposed strategy for both improving the quality of education and simultaneously establishing a seamless system of education and training in Trinidad and Tobago. The authors hold the view that this Paper, while it may require further study and research in some aspects, provides a sufficiently sound basis for serious consideration to be given to its major recommendation – the appointment of a Seamless Education and Training/Project Team Task Force charged with the mandate of planning a seamless education system in Trinidad and Tobago.

5.3.0 Major Recommendation/Proposal

5.3.1 Seamless Education and Training Task Force

5.3.2 The Committee recommends that Cabinet appoint a Seamless Education and Training Task Force/Project Team whose mandate will be to prepare:

- (a) a Strategic Plan for Establishing a Seamless Education and Training System; and
- (b) An Implementation Plan for operationalising a Seamless System of Education and Training in Trinidad and Tobago.

5.3.3 It is recommended that the Task Force/Project Team should be broad-based and comprise the major stakeholders in the education system:

- Chairman - Permanent Secretary, Ministry of Science, Technology and Tertiary Education
- Deputy Chairman - Permanent Secretary, Ministry of Education

- Members - One Representative of each of the following Ministries/Organisations/Institutions:
 - Ministry of Planning and Development
 - Ministry of Labour and Cooperatives
 - Ministry of Education
 - Ministry of Science, Technology and Tertiary Education
 - Ministry of Finance
 - Ministry of Health
 - Ministry of Social Development
 - Ministry of Community Development, Culture and Gender Affairs
 - Ministry of Public Administration and Information
 - Ministry of Energy
 - Ministry of Sport and Youth Affairs
 - Chief Administrator, Tobago House of the Assembly
 - National Energy Skills Development Centre (NESC)
 - YTEPP
 - UWI
 - COSTAAT
 - SERVOL
 - TTIT
 - MIC
 - Teachers' Training Colleges
 - Caribbean Union College
 - UWI School of Continuing Studies
 - Cipriani College of Labour and Cooperative Studies
 - ROYTEC
 - Private Tertiary Level Institutions
 - National Examinations Council
 - Accreditation Council of Trinidad and Tobago
 - TTUTA
 - National Parent Teachers Association
 - Association of Tertiary Institutions of Trinidad and Tobago
 - National Library and Information Systems Authority (NALISA)
 - National Information System Centre (NISC)
 - National Trade Union Centre (NATUC)
 - Trinidad and Tobago Manufacturers Association (TTMA)
 - Representative of the Chief Personnel Officer
 - Association of Technical Vocational Teachers
 - Trinidad and Tobago Chamber of Commerce
 - National Association of Primary School Principals
 - One Teacher from each of the following levels: Pre-School, Primary, Secondary, Post-Secondary and Tertiary
 - National Association of Principals Secondary Schools
 - National Association of Principals of Assisted Secondary Schools
 - Representative of the Office of the Attorney General

- Association of Professional Engineers of Trinidad and Tobago (APETT)
- Student Representatives

The membership of the Task Force/Project Team is conspicuously large. However, the membership, in the opinion of the authors of this Paper must be representative of all the major stakeholders in the education system (and the membership suggested above represents the wide involvement of several Government ministries, educational institutions, professional associations, community organisations, business interests, etc. in providing education and training at all levels of the system).

This seemingly unmanageable number of Task Force members provides for:

- ‘buy in’ or ownership by all the key players whose sharing of information, cooperation and collaboration and commitment constitute a vital pre-requisite for establishing a seamless system;
- access to the resources of the various agencies/organisations needed for the preparation of the strategic plan, the implementation plan and the actual implementation of a seamless system of education and training;
- the creation of the various working groups/committees (which will draw on the membership of the Task Force for their special assignments). It is intended that the Task Force will be organised into working groups in order to carry out its mandate – the formulation of both a strategic and implementation plan for establishing a seamless system of education and training.

5.3.4.0 Proposed Approach to Remit

5.3.4.1 The authors of this Paper wish to suggest in the following sections a broad and practical approach which the Task Force on a Seamless System of Education and Training may consider taking in executing its task.

5.3.4.2 Project Structure

It is advisable that the Task Force adopt a project management approach in producing its strategic and implementation plans. The following project structure is proposed:

- (1) **A Steering Committee/Team (appointed by Cabinet)** which will provide executive oversight of the development of the Task Force’s strategic and implementation plans. It also validates the development process. The Chairman of the Task Force (who has a role distinct from that of the Chairman of the Steering Committee) reports to the Steering Committee on behalf of the Task Force. Chairpersons/coordinators of the various sub-committees/ working groups of the Task Force will also be required to report, as the need arises, to the Steering Committee. **The Steering Team** provides:

- High visibility and strong champion/sponsorship so as to encourage wide participation by the various sectors/stakeholders.
- Appropriate resources to allow the successful execution of the project.
- Coordination between the various key ministries and providers involved in the education system.
- Assistance/conciliatory interventions in resolving conflicts and removing any obstacles which may arise during the exercise.
- Letters of Appointment to the permanent members of all Teams and Groups of the Task Force.
- Physical facilities for the Planning Secretariat.

The following is the recommended membership of the **Steering Team/Committee:**

- Executive Sponsor: Minister of Science, Technology and Tertiary Education.
- Members: Minister of Science, Technology and Tertiary Education; Minister of Education; Minister of Planning and Development; Minister of Finance; Permanent Secretary Ministry of Science, Technology and Tertiary Education; Permanent Secretary, Ministry of Education; Permanent Secretary, Ministry of Finance; Permanent Secretary, Ministry of Planning and Development; Chief Secretary, Tobago House of Assembly (THA); Chief Administrator, THA; Coordinating Permanent Secretary: Ministry of Science, Technology and Tertiary Education; Ex-Officio Member – Head of Planning Team/Planning Secretariat.

(2) **Planning Secretariat/Team** is selected from the Task Force membership. The Planning Secretariat will be responsible for developing and producing the two deliverables of the Task Force: the Strategic Plan and the Implementation Plan for Establishing a Seamless System of Education and Training. It also performs the coordinating role to enable the plan to be developed on time and within budget to the satisfaction of the Steering Team/Committee.

In addition, the Secretariat provides:

- Coordination among the working groups/sub-committees of the Task Force and all the parties involved in the process of developing the strategic and implementation plans
- Secretarial and administrative support
- A central point of contact
- Contracts for technical consultancies (as may be needed)
- Budget Control
- Planning and Status Reports

Suggested composition of the Planning Secretariat/Team:

- Head of Planning Team/Head of Secretariat – Chairman of the Task Force
- Assistant Head of Secretariat - Chairman, Accreditation Council of Trinidad and Tobago
- Deputy Permanent Secretary, Ministry of Science Technology and Tertiary Education
- Chief Education Officer, Ministry of Education
- Principal, UWI.
- President, COSTAATT
- Chief Executive Officer, National Training Agency (NTA)
- Chief Executive Officer – National Energy Skills Center (NESC)
- Chief Examiner, National Examinations Council (NEC)
- Heads of Working Groups
- Information Systems Specialist
- Legal Officer
- Secretarial and Clerical Support Staff
- External Technical Consultant(s)

Envisaged as a Project (i.e. Establishment of a Seamless System of Education and Training (see Sections 1.2.0, 1.3.0 and 2.0 above), the Planning Team will be responsible for planning the entire project as its first priority. This will include:

- Project Description
- Project Objectives
- Project Scope:
 - Deliverables
 - Approach
 - Inputs and Critical Success Factors
 - Project Organisation
 - Contributors and Stakeholders
 - Schedules and Budgets

(3) Working Groups.

The main instrument of the Task Force for obtaining the needed inputs for the development of the strategic and implementation plans will be Working Groups. We propose that each Working Group should be –

- Headed by a Chairperson who would be charged with coordinating, managing and coordinating all the activities and tasks set by the Planning Team.

- Composed of a small core of no more than ten (10) permanent members who are to be identified. Any Group can co-opt other members if and as necessary.
- Comprise representatives of the key sectors/education levels with a major stake in the particular activity. Because of the vast and multi-tentacled nature of a seamless system spanning pre-school to tertiary level, this approach should ensure the necessary cross-sectoral and cross-education levels linkages.
- Supported by the Planning Secretariat/Team in the planning and coordination of its activities.

It is to be noted that the Chairperson of each Working Group would be expected to participate in regular meetings of the Seamless System Planning Team and would reflect the views of the particular Working Group to this Team.

Further, as a matter of course, each Working Group will be responsible for specific deliverables identified by the Planning Team. These will include: reports summarising the inputs and views of all the entities/individuals consulted during the development process, strategies, recommendations, etc.

The following areas/aspects to which Working Groups should be assigned are:

Working Group #1 – Responsible for clear formulation and articulation of:

- (i) **Philosophy of Education**
- (ii) **National Education Goals**
- (iii) **Goals for each level/subsystem of the education system: pre-school, primary, secondary, post-secondary and tertiary**
- (iv) **Performance Standards and Performance Indicators**

This Working Group, in approaching its task, should find useful Section 2.6.4 and in particular Section 2.6.5 (i), (ii), (iii), (iv) and (v) of this Paper.

Working Group #2 – Responsible for the development of a seamless education and training curriculum covering pre-school, primary, post-secondary and tertiary levels. The inclusion of the special requirements for technology education, technical vocational education and training and for education with special needs (mentally and physically challenged learners, those with learning disorders, the gifted learners) must be properly

addressed in such a curriculum. The proposed curriculum must contain the following elements/components: rationale, general and specific learning outcomes (performance standards and performance indicators), content, teaching/learning strategies, instructional materials/resources, and assessment measures.

In fulfilling its task(s), Working Group #2 should find helpful Section 2.6.5 – (i), (ii), (iii), (iv), (v), (vi), (vii) and (viii) of this Paper.

Working Group #3 – Responsible for developing practical proposals for: Government Policy, Legislative Framework, Governance structures and Accountability System(s) – Restructuring and Reorganising the education system needed to create a seamless system. For this Group, Section 2.6.5 (xv) and (xvi) of this Paper should be useful when carrying out its mandate.

Working Group #4 – Responsible for assessing the existing capability, usefulness, effectiveness and efficiency as well as for making recommendations for the improvement, in terms of coherence, coordination, resources and management, of the following support systems:

- **Teacher Support System**
- **Student Support System**
- **Parent/Community Support System**
- **School Support System**

It may be of interest for Working Group #5 to refer to (xiii) of Section 2.6.5 above as they prepare for their tasks.

Working Group #5 – Responsible for developing mechanisms and systems for communication and research-based information-sharing and decision-making (a Management Information System is an essential component of such a system).

The Working Group is expected to develop an information system that would meet the kind of requirements identified at (vii) of Section 2.6.5. above.

Working Group #6 – Responsible for developing a structure and the necessary mechanisms for an effective learner transition system. Such a system will provide for:

- Establishing articulation between the various levels and sectors of the education system.
- Establishing access mechanisms related to multiple entry and exit points (see Sections 2.8.4, 2.8.7 and (xiv) of Section 2.6.4 above).
- Operationalising a National Qualification Framework (NQF) within the jurisdiction of the Accreditation Council of Trinidad and Tobago (see Sections 2.8.4-2.8.13 above).

Working Group #7 – Responsible, in consultation with the various ministries, agencies and institutions currently involved in professional development activities, for developing a focused and well-articulated and coordinated programme for the professional development of all involved in the education process: school administrators (both school-site and ministry-based). See (x), (xi) and [(xiii) (b)] of Section 2.6.4 above.

Working Group #8 – Responsible for the integration of technical vocational and training programmes into the seamless education and training system at the pre-school, primary, secondary, post-secondary and tertiary levels. Such integration must provide for regulating and integrating into the system private providers of technical vocational education and training.

This Working Group will also be responsible for resolving recognition, equivalency and accreditation issues relates to the entire spectrum of technical vocational education and training.

Working Group #9 – Responsible for providing information related to labour market and employer needs.

Working Group #10 – Responsible for developing outcomes/outputs for each level of the system with the aim of ensuring that these outcomes/outputs are aligned and consistent with the general competencies expected of the whole seamless system – and with those expected of a particular level/subsystem of the education system. These outcomes/outputs

must, put differently, not only be properly integrated and articulated with one another but also be both internally and externally consistent with national education goals and curriculum objectives.

Working Group #11 – Responsible for estimating and allocating the budget and identifying the financial resources required for implementing an effective and efficient seamless system of education and training.

Working Group #12 – Responsible for developing a public education programme and marketing strategy aimed at informing the public and major stakeholders about the need for a seamless education system, as well as, one designed to encourage the universal cooperation, collaboration and commitment required for the success of this initiative.

Working Group #13 – Responsible for collecting, collating and analysing information/data related to current initiatives/reform efforts of various agencies and ministries aimed at improving the education and training system. Such initiatives as they pertain to the elements of a seamless system as identified in this Report include: the establishment of the Accreditation Council of Trinidad and Tobago, the work of the National Training Agency in respect of a National Vocational Qualifications Framework, the establishment of the University of Trinidad and Tobago – all spearheaded by the Ministry of Science, Technology and Tertiary Education and the current education reform efforts (including student support activities and teacher education plans) of the Ministry of Education.

The task of this Working Group forms part of the preliminary groundwork needed for the streamlining and coordination of the education system. If current initiatives are not identified rationalised and harmonised further fragmentation of the system will inevitably continue. The task of this Group is to clear the path of the undergrowth blocking the way forward to the creation of a seamless system of education and training.

Working Group #14 – Responsible for establishing quality assurance mechanisms.

5.3.4.3 Conclusion

In conclusion, the authors of this Paper wish to emphasise that, in proposing the way forward by way of the appointment of a Seamless System Task Force and in suggesting how it may approach its remit, their intention is not to pre-empt in any way how this Task Force may decide to operate.

What remains clear, however, in the considered opinion of the authors, is the need for immediate action. Now is the time to begin the preparatory work for establishing a seamless system of education and training in Trinidad and Tobago. The authors are hopeful that this Report represents the first step.

May, 2004

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ATTACHMENT I

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