

**THE IMPLEMENTATION OF THE CARIBBEAN VOCATIONAL
QUALIFICATION (CVQ) IN SECONDARY SCHOOLS OF SELECTED
CARICOM STATES**

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ABSTRACT

The Implementation of the Caribbean Vocational Qualification (CVQ) in Secondary Schools of Selected CARICOM States

Pauline Whiteman

The study explored stakeholders' perceptions about the CVQ to determine its impact on the delivery and assessment for the CVQ level 1 among secondary schools in six CARICOM states. Stakeholders' experiences in the delivery and assessment for the CVQ were also investigated to determine the extent to which approaches employed in the delivery and assessment for the CVQ were in accordance with Competency-based Education and Training (CBET).

The study employed a mixed methodology where the dominant qualitative phase explored perceptions and experiences of students, teachers, Heads of Departments/internal verifiers and principals/administrators about the CVQ level 1 programme by conducting focus group sessions and interviews. The quantitative phase surveyed students, teachers and internal verifiers to determine if approaches employed in the delivery and assessment of the CVQ were in accordance with CBET. Findings of the study were consistent with those found in the literature such as the existence of a negative perception of TVET and by extension the CVQ and challenges in timetabling and resourcing the delivery and assessment for the CVQ. The results of the study unearthed some good practices for cushioning the impact of limited resources such as implementation of the Self-Sufficient TVET School and resource sharing practices. In general, from the perspectives of students, teachers and internal verifiers, delivery and assessment approaches were consistent with CBET. While there were no statistically significant differences among teachers and internal verifiers regarding resources to support CBET, curriculum delivery and assessment practices, there were significant differences among students in all three variables.

Recommendations were proposed for policy, practice and future research with a view to bolster the CVQ system for a more coherent, efficient and effective CVQ level 1 programme. Recommendations for policy focused on uptake of the CVQ level 1, clear delineation of roles and responsibilities of stakeholders, and resourcing for the CVQ level 1. Given the findings in this study, future research should focus on how CVQ level 1 can be implemented in a more economical manner, the feasibility of preparing students for the pursuit of the CVQ level 1 by implementing foundation vocational programmes in the lower forms, the potential for diverse team-teaching/networking across institutions/industry/regions using available ICT infrastructure, the viability of e-Assessments for the CVQ and the effectiveness and cost-effectiveness of the CVQ level 1 programme.

Keywords: Caribbean Vocational Qualification; Competency-based Education and Training; Perceptions; Curriculum Delivery; Assessment Practices; Secondary Schools.

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DEDICATION

In memory of my paternal grandmother Aletha

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GLOSSARY

Assessor

An individual selected by an institution to judge the performance of candidates against occupational standards. The Assessor will be trained and sufficiently experienced and competent to assess the candidate's performance. An Assessor must be thoroughly knowledgeable of both the standards and the knowledge and skills of the occupational area/qualification.

Assessment

Any systematic method of obtaining information from observation, tests and other sources, used to draw inferences about the performance and achievements of an individual. It involves the process of gathering, describing, or quantifying information about performance from an activity such as a written test, portfolio development or project that seeks to measure a student's skills or knowledge in a subject or skill area.

Attitude

The mental set the worker should demonstrate towards the successful performance of the specified task and interpersonal relationship on the job.

Caribbean Vocational Qualification (CVQ)

The CVQ is an award that represents the achievement of a set of competencies that define the core work practices of an occupational area consistent with the levels articulated within the regional qualifications' framework.

Competent

Adequately qualified, trained, and with sufficient experience to safely perform the occupational area with or without minimal supervision.

Competency

A group of defined characteristics that indicate an individual's acquisition of a set of skills in a given area and a level at which performance is agreed to be acceptable.

Competency-Based Assessment

The assessment of an individual's performance evaluated against specific learning outcomes or agreed performance standards and not against the performance of other persons.

Competency Based Education and Training

An approach that moves education from focusing on what academics believe graduates need to know (teacher-focused) to what students need to know and be able to do in varying and complex situations (student and/or workplace focused). CBET is focused on outcomes (competencies) that are linked to workforce needs, as defined by employers and the profession.

Employability Skills

Non-technical skills which play a significant part in contributing to an individual's effective and successful participation in the workplace.

External Verification

The process whereby an awarding body confirms the assessment results, processes and strategies of training providers and verifies internal verification results.

Labour Competencies

The effective ability to perform a fully identified labour competency successfully.

Internal Verifier

An Internal Verifier (IV) is a person with direct responsibility for the quality assurance of the assessment process in an approved centre and in any of its satellite sites in which candidates are assessed. The IV will be sufficiently experienced in assessment in the occupational area.

Internal Verification

The process whereby a training provider ensures it operates consistently and to national/regional standards in interpreting and assessing key skills.

Job

A series or combination of tasks performed regularly by a worker.

Learning Outcomes

Statements of what a learner knows, understands and is able to do on completion of a learning process defined in terms of knowledge, skills and competence.

Mastery Learning

An educational method in which each student stays with a unit of learning material in a process of assessing and correcting until the objectives of that unit are mastered before moving on to the next unit.

Module

A specified element of a training programme which may be assessed and validated (formative assessment) but not recognised.

National Vocational Qualifications

A cluster of competencies related to a particular job which has national recognition for certification of a work, has been equipped with the skills required for employment in an occupation or job as defined by the National Job Standards. They specify the functional areas/duties concerning the work to be performed within a given job and consists of one or more tasks including performance criteria, conditions and worker attitudes.

Occupation

A group of jobs having common or closely related responsibilities and duties, and existing in representative industrial sectors in the country. Actual duties within an occupation may vary from one organisation to another but most areas are common.

Occupational Standards

These are the written descriptions of the industry agreed standards for competent performance in occupational roles. The standards, which include knowledge, skills and understanding of each role, are presented as a number of units containing elements, each of which has three parts – criteria, range and explanations.

Perceptions

Deeply ingrained assumptions, generalisations or even pictures or images that influence how people understand the world and take action.

Performance Criteria

The minimum acceptable measure used to determine a successful or unsuccessful outcome or performance of the specified task.

Performance Standards

A written specification of the results or outcomes of acceptable performance of a task.

Qualifications Framework

An instrument for the development and classification of qualifications (e.g., at national or sectoral level) according to a set of criteria (e.g., using descriptors) applicable to specified levels of learning outcomes.

Technical and Vocational Education and Training

A comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupants in various sectors of economic and social life.

Unit

A component of a qualification that can be assessed, validated and recognised.

LIST OF ACRONYMS

CANTA – Caribbean Association of National Training Authorities

CARICOM – Caribbean Community and Common Market

CBET – Competency based Education and Training

CBE – Competency Based Education

COHSOD – Council for Human and Social Development

CSME – Caribbean Single Market and Economy

CVQ – Caribbean Vocational Qualification

CXC – Caribbean Examinations Council

HOD – Head of Department

ILO – Industrial Labour Organization

ITO – Industry Training Organization

NVQ – National Vocational Qualification

OAS – Organisation of American States

OECS – Organisation of Eastern Caribbean States

PLAR – Prior Learning Assessment and Recognition

RCMTVET – Regional Coordinating Mechanism for TVET

RQF – Regional Qualifications Framework

TTNVQ – Trinidad and Tobago National Vocational Qualification

TVET – Technical Vocational Education and Training

UNESCO – United Nations Educational, Scientific and Cultural Organization

VET – Vocational Education and Training

VQ – Vocational Qualification

CHAPTER 1 – INTRODUCTION

Background

The evidence suggests that investing in Vocational Education and Training (VET) is crucial for the economic advancement and social development of any country in the world (Carneiro, Dearden & Vignoles, 2010). In an effort to remain competitive within the Caribbean Single Market and Economy (CSME), a number of countries in the Caribbean Community and Common Market (CARICOM) have subscribed to the Regional Process for Workforce Training Assessment and Certification leading to the award of the Caribbean Vocational Qualification (CVQ). The CVQ is an award that represents the achievement of a set of competencies that define the core work practices of an occupational area consistent with the levels articulated within the regional qualifications framework (RQF). The institutionalisation of this regional system of vocational qualification is seen as a crucial element in facilitating the free movement of workers while also contributing to the enhancement of skills training in both institutional as in the secondary schools as well as ‘on the job settings’ (Whiteman, 2011).

The introduction of the CVQ in secondary schools was predicated by a mandate by the fifteenth meeting of the Council for Human and Social Development (COHSOD) which was convened on the 19th–21st October 2006. The ultimate aim of this curriculum innovation was reform of the Technical Vocational Education and Training (TVET) system leading to skills development among youths. According to the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and the International Labour Organization (ILO) recommendations on TVET for the 21st century, TVET can be defined as:

a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupants in various sectors of economic and social life (UNESCO & ILO, 2002).

TVET has the potential to ease the transition of youth into the labour market, must be linked to the world of work and should contribute to employability and productivity.

In the context of the research, the researcher acknowledges the CVQ as a qualification which can be utilised for entry into selected TVET career paths. However, throughout the study it is noted that participants have synonymised the term with that of subject areas. In an effort to maintain the authenticity of the participants' contributions, the latter interpretation of the CVQ was therefore evident in some aspects of the qualitative data analysis and reporting.

The CVQ system advocates a more holistic outcomes-based curriculum which includes career guidance and entrepreneurship training. It also impacts the affective domain as it focuses on socialisation for citizenship, for example, behaviours necessary to ensure teamwork and cooperation, effective inter-personal skills, proper work ethic and occupational health and safety. The CVQ subscribes to UNESCO's four fundamental types of learning: to know, to do, to be, and to live together. This philosophy will create the ideal CARICOM Citizen/Worker who, as proclaimed by the CARICOM heads in 1997:

- Is capable of seizing the economic opportunities which the global environment is presenting
- Demonstrates multiple literacies, including foreign language skills, independent and critical thinking
- Has developed the capacity to create and take advantage of opportunities to control, improve, maintain and promote physical, mental, social and spiritual well-being: and to contribute to the health and welfare of the community and country
- Nourishes in him/her and in others, the full development of each person's potential without gender stereotyping: and embraces differences and similarities between females and males as a source of mental strength
- Has informed respect for their cultural heritage and that of others (Gregory, 2006).

The CVQ can be pursued by secondary school students from the fourth year, school leavers, employees or persons seeking new skills. The Caribbean Examinations Council (CXC) awards the CVQ to students deemed competent in secondary schools. The CARICOM approved National Training Agencies (NTAs) and TVET Apex bodies in the region award the CVQ to persons deemed competent in industry, other institutions and community-based programmes.

Students pursuing the CVQ must demonstrate competence in reaching Regional Occupational Standards (ROS) developed by practitioners and employers (i.e., the industry experts). These standards are organised in units. The CVQ is available in several occupational areas, for example, agriculture, business, construction and tourism and hospitality.

Students pursuing a CVQ are required to demonstrate competence in work-based activities simulated in the school workshop/laboratory. Candidates in secondary schools are entered for assessments in specific skill areas. Their subject teachers are trained to instruct and perform continuous in-school assessment. When a student is ready, the assessor/teacher assesses his/her competence by methods such as oral questioning/presentation, observation of performance and appraisal of a portfolio, among others.

Internal Verification is then conducted by internal verifiers who can be teachers or Heads of Departments (HODs) trained to perform that role. The purpose of internal verification is to ensure the quality and consistency of assessment of candidates for CVQ awards. Internal Verification is central to maintaining the integrity of the assessment process and the CVQ and is completed before the external verification process.

External verifiers are appointed by the NTA from industry and are independent of the training institution. They are trained by the NTA to audit the assessment and internal verification processes to ensure that they meet CARICOM/CXC quality standards. External verifiers also witness assessments and internal verifications to ensure that evidence collected is reliable and that record keeping is accurate. Based on evidence provided by both the school and the external verifier, the student will be awarded a CVQ certificate in that skill by CXC.

A CVQ certificate is awarded when a candidate has been deemed competent in all of the units specified by the industry standards for the relevant occupational area. A unit award is issued for each CVQ unit achieved. There is no fixed grade used to determine the award of the CVQ. The individual is assessed and judged only as “competent” or “not yet competent”, as such it is not possible to “fail” given that repeat assessments can be facilitated until the person achieves competence. The CVQ transcript provides a comprehensive skills profile of the graduate enabling employers or educational institutions to make informed decisions about graduates. There are no time constraints for when an individual must achieve all the units for a CVQ. Several units can be acquired in one programme and the remaining units then completed at a different time or in some other programme. This system therefore promotes the notion of lifelong learning (Whiteman, 2011).

The implementation of the CVQ may be regarded as a catalyst for TVET reform. Inherent in this reform is the reorientation of systems to affect a Competency-based Education and Training (CBET) approach to TVET. CBET is very relevant to TVET. The direct focus of CBET is on the development of tasks, skills, attitudes, values and appreciations critical to success in life and/or in earning a living. CBET is characterised by the use of individualisation, instructional technology and systemisation (Finch & Crunkilton, 1984; Foshay, 1990). CBET posits that all learners will learn equally well if they receive the type of instruction they need. Training programmes therefore identify exactly what trainees should learn, provide high quality instruction, facilitates mastery of skills before going on to the next and requires candidates to demonstrate competency in terms of knowledge, skills and attitude. The CBET approach also allows for flexibility on the instructor's part since it provides opportunities to employ different methods of teaching that are in sync with the learners' style and abilities. CBET complements and improves upon the traditional academic approach.

The CBET approach is demand driven and based on occupational standards developed in collaboration with industry. These occupational standards are then used to guide the development of curriculum materials which are presented in a modular format.

The CBET model used in implementing the CVQ is criterion referenced. The assessment for certification is based on performance criteria and conditions under which achievement will be assessed are all explicitly stated and made public in advance. The assessment processes used, match the performance of individuals to specific standards. The CBET model for Vocational Training has been adopted by CARICOM through endorsement by COHSOD in CARICOM Member states since 2002.

According to Finch and Crunkilton (1984), the implementation of CBET is of major concern since even the best programme will be of little value unless it has been initiated in a systematic fashion and has been accepted by students, teachers and administrators. An evaluation of the effectiveness of Competency Based Assessment (CBA) by Dickson and Bloch (1999), revealed four issues faced by practitioners of CBA. These issues included a desire for the grading of results, the need to assess knowledge as well as skills, concerns about the quality of assessment systems and competency standards and the need to review resources.

The system for Vocational Qualifications in the Region is developed and operated by the NTAs in each CARICOM state where they exist. Jamaica, Trinidad and Tobago (T&T) and Barbados were among the first to establish NTAs. Antigua, Grenada and St. Vincent and the Grenadines have recently established NTAs and look to the more mature agencies (as indicated previously) for guidance and assistance. CARICOM has directed Member States without NTAs to source the necessary services from one of the established agencies. However, the training systems of all CARICOM states are facing problems in effectively meeting the requirements of the labour market, setting standards and ensuring an adequate quality of training delivery and assessment. Subsequently, the Caribbean Association of National Training Agencies (CANTA) was constituted as the implementation arm of the Regional Coordinating Mechanism for TVET. CANTA's role in the Caribbean is, inter alia, gatekeeper of the CVQ.

Rationale

The impetus to engage in this study stemmed from my interest in the CVQ and by extension, TVET. According to Ken Boston of the Qualifications and Curriculum Authority (QCA), Vocational Qualifications (VQs) have been stigmatised

for too long and many persons have perceived it as a soft option (Boston, 2005). This perception has extended to students in their choice of subject offerings in the secondary school system. According to Dalley-Trim, Alloway and Walker (2008), there is already much information about the pathways that young people take when they leave school and the careers that they follow. However, what is lacking is an understanding of the reasons for the choices made and of the influences and attitudes that underpin them.

Research to determine the status of implementation of TVET policies in the Caribbean is extremely limited. In addition, any published research is limited to TVET and not CVQs. Pierre (2012) alluded to the fact that there is no research in the Caribbean vis à vis perception on vocational education. However, research on the implementation of TVET programmes in secondary schools, NVQs and CBET have been conducted in many countries outside of the Caribbean.

Given the dearth of research in the TVET arena in the Caribbean, this study will contribute to the development of a body of knowledge in TVET. It is also important to explore the extent to which the literature on vocational qualifications provision in other countries could shed light on the Caribbean situation. The findings of this research study will provide empirical data regarding best practices as well as problems and issues surrounding the implementation of the CVQ so that possible solutions can be identified and addressed, leading to successful TVET reform. In conducting this research study, problematic areas as well as best practices were highlighted, and this should provide evidence for formulating improved strategies in implementing the CVQ.

Purpose

The purpose of this mixed method study was to examine the status of the implementation of the CVQ in selected secondary schools in six CARICOM states. The study investigated/explored stakeholders' perceptions and experiences about the CVQ to determine its impact on the delivery and assessment for the CVQ level 1 and the extent to which the approaches employed in the delivery and assessment of the CVQ were in accordance with CBET. Stakeholders included fourth and fifth form students pursuing the CVQ in secondary schools, teachers delivering and assessing for the CVQ, Heads of Departments (HODs) who supervise CVQ teachers, internal

verifiers (IVs) and principals/administrators of the secondary schools sampled. The study employed a concurrent mixed method approach. The qualitative phase explored stakeholders' perceptions and experiences about the CVQ by conducting focus group sessions and interviews with stakeholders in selected secondary schools in six CARICOM states that have implemented the CVQ level 1.

The quantitative phase involved the development of survey instruments which were administered to stakeholders involved in the implementation of the CVQ to determine if their perceptions of the CVQ impact instructor delivery and assessment of the CVQ among secondary school students in the six CARICOM States. The quantitative data was also used to determine if the approaches employed in the delivery and assessment of the CVQ were in accordance with CBET. The findings will be used to analyse the status of the CVQ. The study can also be used to guide stakeholders on future implementation of the CVQ.

Significance of the Study

The implementation of the CVQ is a curriculum innovation aimed at facilitating the portability of skills as well as increasing competitiveness of the workforce in the region. The CVQ system ascribes to the "CARICOM Model for Workforce Training Assessment and Certification." This model promotes a demand driven system of training which is intended to address skills mismatches and skills gaps in the region (CANTA, 2005). Although this model has been conceptualised since 2005, this is the first time that it is being utilised as a curriculum reform initiative in the region. There are no studies to assess how the CVQ system has been implemented in secondary schools in the region.

This study will assist in highlighting perceptions and identifying challenges in curriculum delivery and assessment of the CVQ in CARICOM states and in doing so will provide evidence for formulating more effective strategies for planning and implementation. The results of this study would contribute to future TVET reform in the Caribbean by providing empirical data to inform TVET policies for secondary schools. The data generated from this study would contribute to the effective planning and implementation of TVET in secondary schools in the Caribbean. The study would also contribute to the existing body of literature in the field and will highlight areas for future research.

Research Problem

The concept of the CVQ patterned the system of National Vocational Qualifications (NVQs) that originated in England and Wales. NVQs were developed in 1985-1986 by a body called The Review of Vocational Qualifications (RVQs) to address weaknesses in the then current systems of vocational qualifications. The weaknesses identified included:

- Unclear pattern of TVET provision
- Overlap, duplication and gaps in TVET provision
- Barriers to access of TVET
- Inadequate arrangements for articulation, progression and transfer of credit.
- Assessment methods skewed towards testing of knowledge rather than skill or competence
- Insufficient recognition of prior learning acquired through formal and non-formal means
- Limited persons pursuing vocational qualifications (Hargraves, 2000).

The RVQ had proposed the general principles of a structure for a reformed qualification system which included a flexible approach towards the NVQ framework, with its curricula and assessment methods tailored to the particular needs of each sector (Hargraves, 2000). The RVQ suggested that the development of curricula and assessment methods for the NVQ framework should be undertaken by standard-setting and awarding bodies working under the aegis of the National Council for Vocational Qualification (NCVQ). The RVQ recommended that the NVQs should be “a statement of competence clearly relevant to work and intended to facilitate entry into, or progression in, employment, further education and training incorporating the assessment of skills to specified standards, relevant knowledge and understanding and the ability to use skills and to apply knowledge and understanding to relevant tasks” (Hargraves, 2000).

According to Spours (1993), there were three phases of education and training reform in the UK. During the first phase, from the mid-1970s to the early 1980s, the vocational training policy focused on the unacceptable level of youth unemployment. This led to the introduction of the Youth Training Scheme (YTS) in 1983 and to the

implementation of pre-vocational education in the lower secondary school system utilising the outcome-oriented approach to vocational qualifications. The second phase of the reform focused on skills and quality of training. The NVQ framework was developed and implemented in 1988. The third phase of the reform included initiatives to broaden vocational routes by introducing General National Vocational Qualifications (GNVQs) and a qualification framework as a response to controversies about the new vocationalism, absence of bridges in the system and the future of NVQs. The new emphasis in education and training reform is now on a work-based route.

Education and training reform in England and Wales for post 16-year-old students in the 1990s were aimed at enhancing the status of TVET, increasing participation in full-time education, encouraging young people to stay on in education and training, preparing them for employment and creating a coherent qualification framework with widely recognised and marketable qualifications (Steinmann, 2016).

At the end of lower secondary school in England and Wales, at around age sixteen, students can choose the traditional academic route or the work-based, job-specific training leading to NVQs. Training may be provided in different forms including on the job which may be combined with off the job as well as various forms of apprenticeship. Students completing lower secondary education may also choose to attend vocational courses in further education colleges where they pursue GNVQs. The quality assurance mechanisms for NVQs have been criticised, in particular the validity and reliability of assessment procedures (Steinmann, 2016). According to Wolf (1995), critics have also argued that the decentralised system with no clear syllabus or external assessment or examiners cannot produce fair or consistent results.

According to Unwin, Fuller, Turbin and Young (2004), there is a dearth of research based on vocational qualifications and even where they do exist, studies focusing on vocational education and vocational learning do not focus on VQs. The researchers also concluded that the UK lacks substantive evidence on VQs. There is also an absence in the literature of a clear policy or a coherent theoretical view regarding the role of VQs. The researchers found a positive link between the attainment of VQs and future participation and some evidence to suggest that the attainment of VQs is beneficial to the individual's level of self-confidence. There is

also a lack of research on the delivery of VQs other than N/SVQs and this makes it difficult to draw any conclusions about the relative effectiveness of different approaches and the implications for teaching and learning (Unwin et al., 2004).

NVQs have subsequently become a key component in the education and training systems of other countries such as Australia, South Africa and New Zealand.

In Australia, the competency-based approach based on standards defined by industry was introduced in 1987 as part of the National Reform Agenda (Guthrie 2009). Training packages, similar to English NVQs were a key component of this reform. The VET-in-Schools (VETiS) programmes were undertaken by some school students as part of the Senior Secondary Certificate. VETiS provides credit towards a nationally recognised Australian Qualifications Framework. According to Hoeckel, Field, Justesen and Kim (2008), a number of challenges exists such as training package development, an inefficient implementation process and wide variations in assessment standards.

South Africa's VET system was influenced by British colonisation and apartheid. Technical colleges were separated along racial lines in the apartheid era and were seen as an alternative form of education for those students who were not academically inclined, and this was maintained until 1980 (Akoogee, Gewer & McGrath 2005).

In New Zealand many VET programmes are offered as post-compulsory education based on the New Zealand Qualifications Framework (NZQF). Upper secondary school students can pursue vocational programmes alongside a general academic programme. VET reform at the upper secondary level in New Zealand aims at engaging students to complete studies in upper secondary VET and beyond to ensure effective transition into the labour market. Students' qualifications in upper secondary education are assessed internally and externally by the New Zealand Qualifications Authority (NZQA) based on the NZQF.

Countries such as South Africa, New Zealand, the United Kingdom and Australia have adopted relatively advanced forms of CBET for the delivery of Vocational Education and Training (VET). However, according to Booth (2000), the concepts of CBET have been widely accepted and adopted in Australia, but some issues such as the quality and consistency of assessment, the reporting of results and

the recognition of student achievement need to be addressed. Fletcher (1991), in examining the purpose of the National Vocational Qualification (NVQ) in the UK, indicated that in the implementation of the NVQ via the CBET approach, the actual processes or methods of designing training will not really change. Weston and Stradling (1993) purport that in implementing the NVQ in the UK, the focus has been increasingly on change in the process of learning which they regard as the most difficult kind to implement. Arguelles and Gonzi (2000), indicated that there have been a number of problems in the implementation of competency-based education in all countries. They also highlighted that the most controversial of the educational issues in the implementation of CBET has been assessment and accreditation of competence.

In an effort to remain competitive within the CSME, a number of CARICOM states have implemented the CVQ using the CBET approach. The implementation of the CVQ has patterned the system of NVQ that originated in England and Wales where several weaknesses in the system of vocational qualifications have been identified. The implementation of the NVQ using the CBET approach has become a key component in the education and training systems of countries such as Australia, South Africa, New Zealand and Wales. The education system in CARICOM is similar to the British Commonwealth and so too was the rationale for TVET which was focused on the acquisition of occupational skills by individuals and subsequently linking them to the labour market so that individuals were prepared for the workforce. The Regional Strategy for TVET resulted in the establishment of NTAs in several CARICOM countries to coordinate and manage the National Training System in each country. All NTAs and TVET Apex bodies are members of CANTA. At the fifteenth meeting of COHSOD, all NTAs Ministries of Education and CXC were urged to collaborate with regard to the award of the CVQ in the secondary school system. Adoption of the CBET approach to the implementation of the CVQ requires a significant shift in the current educational paradigm from the traditional academic approach to teaching, learning and assessment that emphasises skills and competences for the workplace.

CARICOM States have been mandated to implement the CVQ and to subscribe to the CBET approach to TVET. Adoption of this approach requires a

significant shift in the current educational paradigm from the traditional academic approach to teaching, learning and assessment to one that emphasises skills and competencies required for the workplace. A number of CARICOM states are facing problems with regard to the delivery and assessment of the CVQ using the CBET approach. This study therefore aims to identify the problems in delivery and assessment for the CVQ in secondary schools in these CARICOM states.

Research Questions

The study was guided by the following research questions:

Qualitative research questions. The following qualitative research questions were addressed in the study:

1. What are select stakeholders' perceptions about the CVQ?
 - a. How do select students perceive pursuing the CVQ level 1 in secondary schools?
 - b. How do (i) select teachers (ii) select administrators perceive students pursuing the CVQ level 1 in secondary schools?
 - c. From the perspective of (i) select students (ii) select teachers, what are the perceived influences of students' decision to pursue the CVQ level 1?
 - d. How do (i) select teachers' and (ii) select administrators' perceptions about the CVQ influence, if at all, the delivery of CVQ level 1?
 - e. How do (i) select teachers' and (ii) select administrators' perceptions about the CVQ influence, if at all, the assessment for the CVQ level 1.
2. (a.) What are the experiences of (i) select students (ii) select teachers (iii) select internal verifiers and (iv) select administrators in the delivery of CVQ level 1 using the CBET approach?
2. (b) What are the experiences of (i) select students (ii) select teachers (iii) select internal verifiers and (iv) select administrators in the assessment of CVQ level 1 using the CBET approach?

Quantitative research question. The following research question was employed to collect quantitative data in the study:

3. From the perspective of (i) select students and (ii) select teachers and (iii) select internal verifiers, to what extent is the CBET approach employed for both delivery and assessment for the CVQ level 1?

Delimitations

The CARICOM region comprises an archipelago of geographically dispersed islands. Due to the nature of the study and the geographical spread of the countries, the scope of the study was delimited to six CARICOM states, Jamaica, Barbados, Grenada, Dominica, Turks and Caicos Islands (TCI) and T&T that have implemented the CVQ in secondary schools. The study was further delimited by secondary schools situated in various regions within countries which offer CVQs, students pursuing CVQs, teachers who deliver and conduct assessments for the CVQs, Heads of Departments or Internal Verifiers who quality assure the delivery and assessment for the CVQS and principals/administrators. The focus of the study was delimited to stakeholders' perceptions of the CVQ and their experiences regarding the delivery and assessment for the CVQ.

Limitations

Limitations restrict the ability to generalise, apply findings to practice and/or the usefulness of findings. These restrictions may arise because of the selected study design, the procedures used to establish internal and external validity or may be the outcome of unexpected challenges that surfaced during the study (Price & Murnan, 2004). There is limited information as well as limited empirical data available on TVET and by extension the CVQ in the CARICOM region. This limited the ability to present and compare findings when discussing the results of the study.

T&T is the only country that has implemented the CVQ in a large number of secondary schools. In the other five countries involved in the study, only a small number of secondary schools have implemented the CVQ. This had implications for the sampling strategy employed as disproportional sampling was used which may decrease the generalisability of the findings.

The study was resource intensive because of the geographic location of the countries involved. Bureaucracy was an impediment in getting the field work started since permission was required from the Ministries of Education (MoEs) of each country before proceeding.

Organisation of the Remaining Chapters

This mixed methods research study is presented in five chapters. Chapter one presents the background to the study, the rationale, purpose, significance, research problem, research questions, delimitations and limitations. Chapter two includes a literature review which explores the evolution of the NVQ, the genesis of TVET and the CVQ in the Caribbean, CBET and CBA as well as existing research on students' and teachers' perceptions of TVET in the secondary school system. Chapter three explores the philosophical underpinnings of the study, the methodology, sampling design and procedures and how the data were analysed and integrated. Limitations to credibility and validity and ways of addressing them are outlined and as well as ethical considerations in doing the research. Chapter four presents an analysis of the data, qualitative and quantitative findings and the integration of findings. Finally, Chapter five offers a discussion on the findings, actual limitations of the study and suggests recommendations for policy, best practice and future research.

CHAPTER 2 - LITERATURE REVIEW

Introduction

The Caribbean Vocational Qualification (CVQ) is a curriculum innovation that has been implemented in secondary schools by the MoEs within CARICOM States. Since the inception of the implementation of the CVQ in 2007, candidates from Antigua and Barbuda, Barbados, Dominica, Grenada, Jamaica, St. Vincent and the Grenadines, T&T and TCI registered for the CVQ level 1 in 51 occupational areas. Up until academic year 2017/2018, 38,918 certificates have been issued to candidates (CXC, 2011; Fletcher, 2020).

According to Fullan (1991), the intention of an innovation in education is usually to improve the effectiveness of teaching and learning. The implementation of the CVQ involved planned curricular changes in all the areas as posited by Snyder, Bolin and Zumwalt (1992), such as goals, organisation, role of the teacher, content, instructional strategies, classroom management, and materials or evaluation. The Competency-based Education and Training (CBET) approach is employed for the delivery and assessment of the CVQ. There is a paucity of research on the implementation of the CVQ in secondary schools in the Caribbean; therefore, this study will examine stakeholders' perceptions about the CVQ to determine the status of delivery and assessment for the CVQ level 1 using the CBET approach among secondary school students in six CARICOM states.

Given the dearth of literature on the implementation of the CVQ, the literature review will focus on existing research originating from other countries in areas pertinent to the research topic. The evolution of the VQ system in the UK will be explored and issues related to TVET internationally and regionally will be addressed. The literature review will also outline the genesis of the NVQ and CVQ internationally and regionally and the degrees of successes related to such. Stakeholders' perceptions and the CBET approach to the implementation of TVET and N/CVQs will also be explored.

Evolution of the NVQ

NVQs originated in three countries in the UK viz., England, Northern Ireland, and Wales (Hargraves, 2000). In the UK, the Royal Society of Arts (RSA) and City

and Guilds were the major providers of examinations in craft, commercial and technical subjects. The awards issued by these organisations overlapped or had no connection with those provided by the professional and local awarding bodies and there was no attempt to harmonise these arrangements to create a national system (Raggatt & Williams, 1999). From the nineteenth century to the 1970s, VQs in the UK reflected a knowledge-based approach which arose out of widespread concerns that the nation was falling behind its industrial competitors (Steinmann, 2016). The UK had also been criticised for not producing adequate numbers of highly skilled individuals compared to international competitors and to the requirements of economic performance. At that time, 50% of 16-year-olds entered employment without any significant training. During the 1970s and 1980s, the Manpower Services Commission (MSC) published a series of documents advocating for skills training to be competence-based, with qualifications derived from nationally agreed occupational standards. The MSC expressed concerns about the UK's poor industrial performance when compared to countries such as Germany and the United States and the need for both education and training to be better aligned to a changing economic climate (Hargraves, 1998; Unwin et al., 2004).

Raggatt and Williams (1999) chronicled the evolution of the Vocational Qualification system in the United Kingdom beginning with the attribution of the poor state of TVET to economic decline which had been so since the 1850s. They also alluded to the plethora of a variety of VQs which contributed to duplication and overlaps in the system. These wide variations created confusion with the standards in the minds of the stakeholders which pointed to the need for rationalisation of the VQ system.

Consequently, in their quest to improve the system in the UK, the NVQs were created and were expected to represent a single system of credible VQs, which will allow for articulation, promote flexibility due to its modular structure and allow individuals to bank/build credits towards a full VQ. This system was also expected to be outcomes based, allow for learning in the workplace and include an authentic assessment process which would result in an enhanced accreditation system (Raggatt & Williams, 1999).

The National Council for Vocational Qualifications (NCVQ) was subsequently established to develop a framework of NVQs in the UK. The framework consisted of five levels and eleven occupational areas. The government funded the establishment of Industry Training Organizations (ITOs) which were charged with the responsibility of developing occupational standards and awarding bodies, which developed the assessment and quality assurance arrangements for the NVQs based on the criteria set by the NCVQ. To ensure that the NVQs remain credible and relevant, a recommendation was made to have all NVQs reviewed by 1996. This was undertaken by Gordon Beaumont in 1995 (Hargraves, 2000).

The Beaumont review revealed that there was support for the use of competence-based standards as the basis for the NVQ among employers; however, employers also highlighted the number of areas where there was room for improvement. These included the following:

- The language used in the NVQs was difficult to understand and this was further compounded by the form and structure in which they were written.
- Clarity and detail in the specifications of knowledge and understanding
- Inappropriate assessment, in particular where college-based and training providers offered government –funded training schemes.

There were also concerns regarding how external assessments might affect access to the qualification, definitions of the roles, and service and performance levels of those delivering the NVQ (Beaumont, 1996). Another review was undertaken by Dearing in 1996, where it was recommended that NVQ designers consider what key skills were appropriate for NVQs (Dearing, 1996).

Vocational Qualifications serve a number of purposes, they help employers with recruitment and selection decisions; certify a person's competence; provide entry to professions; and enable progression to and within further and higher education. NVQs are described as a system of learning and accreditation and are achieved through assessment and training. Appropriate support is critical for learners who are not immediately attracted to the style of the NVQ structure and methodology. NVQs are work-related competence-based qualifications that reflect the knowledge and skills required to do a job effectively and show that the candidate is competent in the area of work the NVQ framework represents. NVQs stipulate no time limit (Hargraves,

2000). The pursuit of NVQs can be substantially affected by factors such as their currency in the labour market, links to professional and career pathways and the age of the candidate (Hargraves, 2000).

The development of the NVQ system within the CARICOM was based on the aforementioned administrative and structural parameters of the system in the UK.

Genesis of TVET within CARICOM

CARICOM was established by the Treaty of Chaguaramas in 1973 and consists of 15 Member States and 5 Associate Members. The 15 Member States include Antigua and Barbuda, The Bahamas, Barbados, Belize, Commonwealth of Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname and T&T. The Associate Member States include Anguilla, British Virgin Islands, TCI, Cayman Island and Bermuda.

Seven of the 15 member states of CARICOM are also members of the Organisation of Eastern Caribbean States (OECS) which is made up of nine island states of Anguilla, Antigua and Barbuda, British Virgin Islands, Commonwealth of Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines. The OECS was formed in 1981 when seven Caribbean countries signed the treaty of Basseterre. Anguilla and British Virgin Islands later became Associate members of the OECS. The OECS member states are considered as one entity because they have coordinated their efforts in education reform (CARICOM Secretariat, 2010).

Substantial growth of TVET in the Caribbean started in the 1960s with the introduction of Technical High Schools in Jamaica in the 1960s and Technical Institutes in T&T in the 1970s. Inherent in the evolution of the system of education in the Caribbean is the adoption of the British Commonwealth influence as a result of colonisation.

The genesis of TVET in T&T was when carpentry and agriculture was introduced for boys and needlework for girls as articulated in the Keenan Report on the state of education in Trinidad in 1869. This report was the result of an inquiry into the education system in Trinidad conducted by Patrick Keenan in 1869. Keenan reported that “industrial education and training” as it was called at that time had been neglected. Keenan saw industrial education and training as a means of equipping

children in schools with appropriate behavioural skills and knowledge. Keenan also endorsed an opinion that had been expressed by Lord Harris in 1847, who had served as Governor of Trinidad from 1846. Lord Harris had proposed that a good mix of formal academic and industrial education be made available in schools that were to be established in every part of Trinidad (Dyer & Dyer, 2007).

The Board of Industrial Training was established via statute in 1906 to provide for and promote industrial training in T&T. One of the measures instituted by this Board was the establishment of a Junior Technical School in 1943. This was closed after ten years to give way to the establishment of the San Fernando Technical Institute, the first government institute of its kind in T&T which provided training and certification in the required occupational areas to support the growth of industry. In the years that followed, other TVET institutions were established with the same remit, such as the Point Fortin Vocational Centre, the Chaguaramas Trade School and the John S. Donaldson Technical Institute. TVET reform in the secondary school system in 1972 onwards saw students being exposed to pre-vocational subjects at the Junior Secondary School and a specialised craft programme at the Composite and Senior Comprehensive Schools (Dyer & Dyer, 2007). Similar TVET reform initiatives were being implemented within CARICOM around the same period.

TVET was introduced throughout the formal secondary education system in Jamaica by the end of the 1970s. Training in Jamaica focused on the acquisition of occupational skills by individuals and subsequently linking them to the labour market so that they were prepared for the workforce. Students at the secondary level were prepared either to enter the job market or to continue their education at a higher level. Curricula reform was introduced in the secondary school system via the Reform of Secondary Education (ROSE) programme which introduced Resource and Technology subject areas that integrated the components of five TVET subject areas, namely, Agriculture and the Environment, Home and Family Management, Product Design and Development, Resource Management (including Information Technology) and Visual Arts (Jennings-Craig, 2012). Students in the secondary school system at Grade nine were required to take the Grade Nine Achievement Test (GNAT) and if successful were given an opportunity to pursue secondary education at high or technical schools (International Bureau of Education - UNESCO, 2012).

In Barbados, TVET evolved from an initiative by the government to build the skill base of the Barbados labour market and provide opportunities for Barbadians to gain post-secondary education and training while preparing them for the work force. Since 1979, several institutions were modernised and expanded to allow for the delivery of TVET programmes. These include the Barbados Vocational Training Board, the Samuel Jackman Prescod Polytechnic, the Barbados Community College and the National Youth Service. These TVET institutions were all regulated through government legislation and managed by Boards (Cave, 2005).

In 1986, the Standing Committee of Ministers responsible for Education (SCME) was mandated by CARICOM to conduct a survey on TVET in the Region and prepare a report. The results of the survey highlighted many areas of concern in TVET such as negative perception, delivery, validation of programmes and coordination and management. Based on the findings of the survey, the CARICOM Secretariat was given the responsibility to prepare a Regional Strategy for TVET. There were many positive outcomes arising from the adoption of the Regional Strategy for TVET 1990, these include inter alia:

- The establishment of NTAs to coordinate and manage the National Training System
- The establishment of the CANTA in 2003 which has been endorsed by CARICOM as the implementation arm of the Regional Coordinating Mechanism for TVET (RCMTVET)
- The establishment of a Regional Qualifications Framework (RQF)
- The adoption of the CARICOM Process for Workforce Training and Certification in 2005.

All CARICOM member states, with the exception of Suriname agreed to follow common strategies in TVET in the development of the CARICOM workforce through the adoption of the Regional Strategy for TVET in 1990.

In 1989, the Heads of Government of CARICOM agreed on the establishment of a Single Market and Economy as one of its responses to the challenges and opportunities presented by the global economy. This agreement required a revision

of the Treaty of Chaguaramas. The CSME was completed and endorsed by Heads of Governments in 1992.

Article 45 of the Revised Treaty of Chaguaramas declared that Member States commit themselves to the goal of free movement of their nationals within the Community. The agreements in the Revised Treaty deal with free movement for the purposes of engagement in gainful economic activity and hassle-free travel/facilitation of travel. One of the changes brought about by the CSME was the introduction of the CARICOM Certificate of Recognition of Skills Qualifications (CARICOM Skills Certificate). This certificate allows a CARICOM National to seek work in another Member State as a wage earner. Article 46 subsequently identified the categories of community nationals the right to seek employment in various jurisdictions. CARICOM Nationals who are artisans and possess a CVQ can apply for a CARICOM Skills Certificate. This certificate allows its holder to move and work freely within CARICOM. Jamaica was the first member state to begin implementation of the Regional Strategy for TVET.

The Human Employment and Resource Training Trust National Training Agency (HEART Trust/NTA) was established via statute under the HEART Act of 1982. HEART Trust/NTA was restructured by the amended HEART Act in 1994 when the National Council in Technical Vocational Training (NCTVET) was established as an attempt to find solutions to the problem of underdevelopment in the country. The agency was established to govern the development and delivery of TVET in Jamaica. The mandate of the HEART Trust/NTA was to train and certify Jamaican citizens for employment and to regulate and set standards for the TVET system in Jamaica. The NCTVET is the vocational training arm of the HEART Trust/NTA. A key objective of the NCTVET is to quality assure the TVET system in Jamaica. The HEART Trust/NTA also operates a number of HEART Institutions (Fletcher, 2020; Morris, 2013). Similar moves were made by Barbados towards the implementation of the 1990 Regional Strategy for TVET.

In 1993, the Government of Barbados established the TVET Council of Barbados by the Technical and Vocational Education and Training Council Act 1993-11 of the laws of Barbados in an effort to expand its reach in delivering TVET. The establishment of the TVET Council of Barbados was a concerted attempt to separate

the functions of delivery and coordination of training. The TVET Council was mandated to plan, coordinate and establish standards and qualifications for TVET. The main functions of the TVET Council are to:

- Advise the Minister of Labour on policy relating to TVET.
- Make grants or loans for the support and provision of TVET
- Establish training priorities, tests, qualifications and accreditation
- Establish occupational standards for TVET
- Coordinate TVET at the tertiary level.

The TVET Council of Barbados was given the mandate to spearhead the work of the NVQ in Barbados which began in 1998 (Cave, 2005; Fletcher, 2020).

The genesis of the National Training Agency of Trinidad and Tobago (NTATT) was as a result of a recommendation of a Task Force established in 1992 with Terms of Reference to “develop and implement a strategy for rationalising and coordinating aspects of post-secondary technical and vocational training policy and programmes being undertaken by various public sector agencies.” The Task Force recommended, inter alia, the establishment of a “single statutory body with the necessary legislative powers, responsible for administering the National Training System” However, it was only in 1994 that Government of the Republic of Trinidad and Tobago (GORTT) via Cabinet, approved the establishment of a company to serve as the single national training agency with full responsibility and legal authority for planning, coordinating and administering the National Training System. The role of the NTATT is to coordinate and regulate TVET throughout T&T, promoting and facilitating a coherent system of quality TVET. The NTATT was formally opened in 1999 (Fletcher, 2020).

The education and training systems in the OECS have been affected by significant regional initiative such as the Regional Strategy for TVET and the work of the CARICOM Advisory Task Force on TVET. In 1994, the OECS developed the “Draft Policy Document on TVET.” The OECS also provided the foundation for its Member States to establish functioning national training mechanisms. In 1995, the OECS drafted a Harmonised Education Legislation which included a section to guide the establishment of a national mechanism to coordinate TVET, the “National TVET

Council” which provided the legal framework for an effective TVET system. However, not all Member States have enacted the legislation or established a functioning national training mechanism (Mahabir, 2007). Subsequently, in 1996, the OECS Ministers accepted the draft OECS Education Act as the model legislative framework for Education reform in the OECS and for the further development of TVET. This initiative was aligned to the Regional Strategy for TVET (Mahabir, 2007). The OECS countries however, expressed their lack of ability in the TVET sector to build capacity due to the unavailability of TVET institutions (Mahabir, 2007). The Government of Grenada was among the first to enact legislation for the creation of an effective TVET system.

The Government of Grenada, in order to ensure that the country’s workforce has acquired the competence required to operate at the regional level, established two bodies to oversee the development and delivery of technical and vocational education and training. The two bodies were:

- The Grenada Council for Technical and Vocational Education and Training
- The National Training Agency

The Grenada National Training Agency (GNTA) was formed by the Grenada Council for Technical and Vocational Education and Training (GCTVET) Act of Parliament in May 2009. Since its inception, the Grenada National Training Agency has been engaged in some essential preparatory activities for the execution of its first project - *The OECS Skills for Inclusive Growth Project* which aimed, inter alia, to train 1200 unemployed Grenadian youth in four areas over a three-year period in the areas of Tourism and Hospitality studies, Construction (year one), Agriculture and Marine services. The Project also supported the establishment of an occupational standards framework to improve the quality and value of training in Grenada and has an institutional strengthening and project management component that supported the NTA and GCTVET in their role of establishing the TVET policy and the adoption and promotion of a regional standards-based occupational framework (Fletcher, 2020). At the twenty-fourth meeting of COHSOD the Grenada NTA was granted permission to award the CVQ.

The Education Act (1999) Part 6 enshrined in the Laws of Saint Lucia (2001) made provision for the establishment of the Saint Lucia Council for Technical and

Vocational Education and Training (SLCTVET). The main functions of the SLCTVET were to establish training priorities, qualifications and accreditation to plan and “co-ordinate TVET at all levels of the education system”. The Council was also authorised to “make regulations for the holding of tests in respect of any specified occupation, and for the granting of a certificate of proficiency”. The Council’s work was operationalised through the TVET Unit of the Ministry of Education, Human Resource Development and Labour (Fletcher, 2020). The Saint Lucia Council for TVET was granted permission to award the CVQ at the twenty-fourth meeting of COHSOD.

CANTA was established by NTAs and TVET apex bodies of the region to coordinate and rationalise TVET in CARICOM states. The objectives of CANTA are inter alia:

- Governance- CANTA, through RCMTVET will optimise the utilisation of human, physical and financial resources while at the same time ensuring returns on investments, and the implementation of regional economic and social sector policies related to human resource, workforce development and training in the CSME.
- Research and monitoring – Members of CANTA will commit to maintaining active research and monitoring of all aspects that directly affect the operation and success of CANTA.
- Promotion and development of national training agencies/authorities or TVET apex bodies.
- Improving the image and status of TVET in the region
- The uniform provision of CBET, assessment and certification
- The establishment of a regional labour market information system
- The promotion of career guidance throughout CSME (Cave, 2005).

The establishment and governance of a Regional Training and Certification System, (the CVQ) is one of was one of the primary objectives of CANTA. The role of CANTA in that regard is to ensure uniform delivery of competency/standards based TVET certification within CSME in order to ensure acceptance and recognition of the CVQ throughout CARICOM.

Genesis of the CVQ

A CARICOM TVET Report, informed by recommendations of the Ministers of Education dated May 30, 1990, identified that TVET Systems in each country were fragmented, operated at many levels and areas, incorporated fundamentally different delivery systems, used a wide variety of teaching-training institutions and had established many different examinations and qualifications, which continue to exist. Although the Regional Qualifications Framework (RQF) has been approved by CARICOM since 2000, the COHSOD in its 15th meeting in Guyana in October 2006, considered a CBET model for Training, Assessment and Certification in TVET as outlined by CANTA. The COHSOD agreed that the institutionalisation of a Regional five tier system of CVQ would facilitate the credentialing of skills for experienced persons already in the workforce (CANTA, 2005).

The RQF, which consists of five occupational levels, was adopted to establish a platform on which to build mutual recognition of qualifications. CSME makes it imperative that qualifications awarded at institutions in the region are aligned with regional and extra regional standards (Ali, 2008). The RQF is used as a measure to ensure all academic and vocational qualifications awarded within each Member State meet the criteria required for the award of the CARICOM Skills Recognition Certificate. The RQF enables all qualifications to be benchmarked for comparability and equivalence so that there is formal recognition for movement within the region for the purposes of employment. It is currently being used to award the CVQ.

The RQF is being used as an instrument for TVET reform, and ultimately as an overarching Human Resource Development Strategy. The RQF provides a seamless system of integrating vocational and traditional academic pathways. It facilitates lifelong learning and articulation from one level to the next and enables portability of skills across CARICOM countries. This framework ensures that the system for certification of workforce competencies and accreditation has integrity and credibility and facilitates the integration of the Caribbean workforce. Individuals can establish a viable career path in the TVET system, and this allows for a vast increase in the number of trained, certified practitioners as it enables credentialing of skills in the workplace, in training institutions and those accessing skills training via

community-based programmes. The RQF also accommodates individuals who have prior experience through Prior Learning Assessment and Recognition (PLAR).

The CARICOM Process for Workforce Training Assessment and Certification is a document that was prepared by the CANTA Secretariat in 2005. The document details a model for workforce training, assessment and certification within CARICOM. The model ascribes to the CBET approach to education and training, is demand-driven and based on occupational standards developed in collaboration with industry. The occupational standards are then used to guide the curriculum materials which are presented in a modular format. The assessment processes used, match the performance of individuals to specific standards (Whiteman, 2011).

At the 11th meeting of COHSOD of the Caribbean Community in 2004, discussions ensued regarding the development of the CVQ and the certification of labour competencies at the secondary school level (COHSOD, 2004). However, it was only in 2006, at a retreat for Ministers in CARICOM countries with responsibility for education that an agreement was reached to place the issue of the CVQ on the agenda for the fifteenth meeting of COHSOD. At the 15th meeting of COHSOD, the CANTA Model for Training Assessment and Certification was examined and the establishment of a scheme to award the CVQ was approved. COHSOD also authorised the NTAs, viz, Jamaica, Barbados and T&T, which had approved arrangements for issuing NVQs to offer CVQs and urged member states which had not yet done so to establish national focal points through which arrangements for CVQ could be developed. The COHSOD requested NTAs, Ministries of Education and CXC to collaborate with regard to the award of the CVQ in the secondary school system. CXC has been mandated to certify levels one and two in the region's secondary schools, through the process of Quality Assurance while NTAs will award the CVQs to the out- of- school population including persons in the workplace (COHSOD, 2006). The OECS had also requested CXC to certify CVQ in the workplace. A number of CARICOM states responded to the request by implementing the CVQ in a number of occupational areas (COHSOD, 2008). International conventions such as those established by the ILO were also benchmarked in an effort to meet the demands of the labour market.

The ILO in its recommendation 195 has outlined a set of criteria and principles for training that all member states should put in practice. It purports that access to education; training and lifelong learning is a right for all. (ILO, 2005). Governments are focusing increasingly on secondary vocational education, vocational training and lifelong learning in order to meet the demands of globalised and competitive markets, while at the same time addressing the training needs of growing youth cohorts.

At around the same time that CARICOM countries were seeking to reform TVET in the secondary school system, the Organisation of American States (OAS) embarked on a Hemispheric Project. The genesis of the OAS Project titled 'School Management and Educational Certification for Development and Accreditation of Key and Basic Labour Competencies at the Upper Secondary Level' stemmed from an attempt by the OAS to offer a solution to the problem of high rates of student attrition and youth unemployment in the Latin American countries. According to Jacinto (2010), almost half of young people in Latin American countries do not finish secondary school education. This leads to the problem of youth unemployment as they are unable to find quality employment. The OAS Hemispheric Project devised an approach to have the students acquire labour competencies along with the traditional academic subjects in the secondary schools. This approach was regarded as a preventive and remedial strategy against the problem of school retention. It was envisaged that beneficiaries of this OAS project would be more marketable and could avail themselves of job opportunities when they complete the school cycle or even if they do not (Jacinto, 2010).

At the 15th meeting of COHSOD, Ministers also pledged their support for their representatives of their countries to attend the meeting of the OAS Secondary Education Project in Jamaica (COHSOD, 2006).

A recommendation was made at the 16th meeting of COHSOD in 2007 to grant persons certified with the CVQ at all levels for which regional standards have been approved the right to move. The COHSOD also recommended that persons certified with NVQs from January 2004 in areas for which regional standards have been approved be also accorded the right to move within CSME (COHSOD, 2007).

At the 18th meeting of COHSOD, it was agreed that the CXC and other stakeholders would work towards refining the systems at both national and regional

levels for the award of the qualification. Member states were also urged to develop arrangements for students to access the qualification (COHSOD, 2009).

Education and TVET policies in the Caribbean have recognised the need for TVET reform in secondary schools over the last two decades. The general philosophy of the OECS Education Reform Strategy posited that students exiting secondary schools must either be able to pursue further education in a particular field or be trained in some specific skill area in the world of work. The reform strategy required that students be encouraged to take into account personal interests, as well as national and sub-regional priorities (Miller, Jules & Thomas, 2010). As part of TVET reform in secondary schools in T&T in 2005, the GORTT implemented the TTNVQs via the CBET approach in forms four and five and which subsequently became CVQs (National Training Agency, 2016). The Jamaica National Policy for TVET has articulated as two of its strategies in addressing curriculum development, certification and recognition, *inter alia*, the revision of curricula to facilitate the integration of TVET at all levels and the implementation of CBET (Ministry of Education, Jamaica, 2014). Likewise, the Barbados Human Resource Development Strategy 2011-2016 articulated its intention to adopt the competence-based approach to training and assessment as part of the qualifications' framework (Ministry of Education and Human Resource Development, Boyce et al., 2010). These TVET reform initiatives are all aligned with those of CARICOM.

The “CARICOM Regional TVET Strategy for Workforce Development and Economic Competitiveness” (2012) has outlined a new strategic direction for TVET inclusive of CBET and certification via the CVQ. One of the components of the strategy is the integration of TVET with general education, of which the implementation step is the promotion, scheduling, resourcing and staffing to adequately implement the CVQ to ensure that it is available to all students at the upper secondary level.

Competency-Based Education and Training

History of CBET

Competency-Based Education and Training (CBET) can be defined as education based on outcomes and pre-determined standards on what students/trainees can do (Arguelles & Gonzi, 2000). CBET is also known by many

different names including Performance-Based Teacher Education (PBTE); Competency-Based Teacher Education, Competency-Based Vocational Education, Competency-Based Education. (The term CBET will be used throughout this document).

By the early 20th century, the growth in economic processes and new technologies saw an increase in global competitiveness in the area of education. This meant greater attention was given to social expertise, mastering skills and competency as basic aspects of modern educational process over the entire history of its development. Precursors to CBET can be seen outside of education, where the history of outcomes-based approaches can be traced back hundreds of years to craft guilds, apprenticeship training programmes, technical training programmes (in the military, etc.), and licensure programmes (for doctors, lawyers, etc.) where established standards for competence and performance have been identified for specific jobs and roles. Within US education, the outcomes movement stretches back about 100 years, with early roots in mastery-based learning models in the 1920s, the work of Ralph Tyler in the 1940s, publication of Benjamin Bloom's taxonomies for cognitive domains in 1956, and the work of Bloom, John Carroll, and others in developing mastery learning in the 1960s and 1970s (Tuxworth, 1989).

CBET originated as a response to social and cultural pressures and has its societal origins in the United States of America in the 1950s, 1960s and 1970s as a possible solution to a problem with respect to the quality of education. In the 1960s, there was a problem regarding the dropout rates from secondary schools and subsequent difficulties of graduates securing and seeking employment. The response to this problem was the Education Act of 1963 which addressed conceptions of work and funded the development of vocational institutions (Norton, Harrington, Gill & Ohio State University, 1978).

CBET has been applied, in varying forms, to vocational education at a national level in numerous countries, including the UK, Scotland, Ireland, Australia, New Zealand, the USA, Canada, Mexico, as well as within Central American and European countries (Reuling, 2002). Australia for example adopted CBET in the mid 80's to upgrade workforce skills in the face of industrial restructuring. This was done for economic reasons. Most governments adopted CBET for economic, not educational,

reasons. Policy makers felt that traditional TVET/training providers were out of touch with industry needs and unable to lead the required reform (McCowan, 1998). Any TVET System must be 'fit for purpose' in order to fulfil its general obligations towards society, it must therefore be effective, efficient, relevant, flexible and modular, sustainable, respondent, accessible, affordable and accountable. The CVQ system follows the philosophy of CBET which, as its name suggests, is a philosophy that hinges learning on the individual's ability to carry out well defined activities. According to Foshay (1990), curriculum design for CBET instruction is focussed on the description of learner performance rather than on topic names and number of hours, and learner performance is described via behavioural or learning objectives.

The underlying theories of CBET include both behaviourism with its emphasis on learning theory and the systems theory. These theories have been categorised based on the impact on specific aspects on CBET such as objectives, learning processes and assessment. The theory of Behaviourism has contributed to the general approach to CBET, such as the expression of competencies in behavioural terms and CBET assessment as observable behaviours of the learner (Hodge, 2007).

In a traditional educational system, the unit of progression is time, and it is teacher centred. In a CBET system, the unit of progression is mastery of specific knowledge and skills, and it is learner or participant centred. According to Foshay (1990), CBET has several characteristics. Curriculum is described mainly by terminal objectives which are in turn broken down into enabling objectives and close attention is paid in order to ensure that the objectives, instruction and tests correspond to content and level of performance referred to as curriculum alignment. Levels of performance are described using Benjamin Bloom's Taxonomy of the cognitive domain. Foshay (1990) has reiterated the importance of the use of all levels of Bloom's cognitive domain, as some CBET products are described as drill and practice. As a matter of fact, a major criticism of CBET instruction is insufficient emphasis on the higher order thinking skills such as analysis, synthesis and evaluation. Testing is also important in CBET. Tests must correspond to the objectives in content and levels of learning and must be valid and reliable. In CBET, learners are told what is required of them. This philosophy often leads to the criticism of CBET.

A frequent consequence of the CBET approach is the elimination of irrelevant or ‘nice to know’ content in favour of ‘need to know.’ While this contributes to the improved efficiency and effectiveness of instruction, CBET is sometimes criticised for being too narrow in focus. In a CBET system, training is based upon the learner’s ability to demonstrate mastery of skills performed under certain conditions, to specific standards. CBET instruction deals with how instructional materials and assessments are developed, whereas mastery instruction deals with how delivery of instruction is managed.

Difference between CBET and the Traditional Approach

As can be seen in the table below, CBET approach to education and training is different from the traditional approach in its design and implementation. With CBET, there is also close collaboration between the education/training function and the workplace.

Table 1

The Difference Between the Traditional and CBET Approach to Teaching and Learning

Traditional Approach	CBET Approach
Focus on rote-learning	Focus on engaging deeper, more meaningful learning
Focus on lower-level thinking	Emphasises application of knowledge, skills and attitudes and higher-order thinking, application, synthesis, analysis, evaluation
Learner is passive	Places learners in an active role
Teacher-centred: teacher as information giver	Learners are encouraged to take personal responsibility for learning. Teachers are more focused on facilitating rather than teaching
Culture of “one right answer”/knowing	Culture of “thinking”/learning/ questions
All learners taught exactly the same	Learning is differentiated, made personal and meaningful
Fragmented, silo curriculum	Interdisciplinary and integrated learning
Assessment goals set by teacher/school; mainly summative	Student involved in setting learning goals, mainly formative, demonstration of understanding

Norm referenced - Learners compared with others and their success is judged in comparison with how well others do	Criterion referenced - Each learner is judged on predetermined standards, his/her ability to master the competence
Prior learning is not formally recognised	Prior learning is recognised as contributing towards competency
Entry requirements often apply and learners may be excluded on this basis	Specific entry requirements need not apply
Learner achievement is measured by knowledge of subject matter or ability to complete examples of job tasks	Learner achievement is measured by actual ability to do the job effectively
Instructions may not be directly applicable for the workplace	Competencies suit the requirements of the workplace
Learning experiences are institutionally based	Competencies may be achieved through a variety of pathways
Training is typically focused on the process involved	Training is focused on the outcomes achieved
Time frame for completion is fixed	Learners learn at their own pace until they demonstrate competence. Time based targets do not normally apply
Focuses on teaching and completing syllabus	Learning is judged by learner's achievement of the pre-determined outcomes

Note. From Allais (2010); Bingham, Adams & Stewart (2021); Brown (1994); Jones (1999); Wesselink et al., (2007); Sturgis, Patrick & Kennedy., (2011); Tuxworth (1989).

Delivery strategies. Delivery methodologies to encourage in a CBET environment include inter alia:

- Active/interactive discussions
- Case studies
- Role play
- Simulations
- Field trips
- On-the-job activities
- Peer tutoring.

Lecture. The use of lecturing when delivering curriculum via CBET is not encouraged as research on the impact of lectures on achievement is discouraging when compared to other methods of instruction.

Lecture discussion. In the lecture discussion, students can question and seek clarification. However, the teacher will be required to prepare questions prior to the discussion. In addition, time management may limit the discussion period.

Brainstorming. Brainstorming allows for creative thinking and encourages full participation and a spirit of congeniality among students.

Videos. Video shows can be used to keep students' attention and stimulate discussion. It requires equipment to be set up and is only effective if the teacher prepares questions to be discussed after the video show.

Class discussion. Class discussions pool ideas and experiences from students and allows everyone to participate in an active process. However, it is not always practical with more than 16 students.

Demonstration. Demonstrations allow students to observe the skill or procedure performed before having to do it themselves. Adequate planning is required for an effective demonstration; however, the pacing of a demonstration may not allow for the differences in learning rates among students.

Small group discussion. This strategy allows participation of all students who are usually more comfortable in small groups. Teachers will be required to prepare specific tasks or questions for the group to answer.

Case studies. Case studies develop higher order thinking skills such as analysis and synthesis. They allow for exploration of solutions for complex issues. These require much teacher preparation as they must be clearly defined.

Role playing/simulation. This strategy provides students the opportunity to practice skills, assume the roles of others and appreciate another point of view. The teacher must define problem situations and roles clearly and must give clear instructions.

Field trips. These enable students to extend classroom learning into real world situations. Research shows that this strategy is very effective when compared to simulations in the classroom.

Peer tutoring/coaching. Peer tutoring allows students to receive one-to-one assistance. It promotes student engagement and increase self-confidence and self-efficacy.

The CBET approach has been employed for the delivery of the CVQ and a great deal of emphasis is placed on assessment, as evidenced by the mandatory quality assurance requirements as prescribed by CANTA. Assessors must be trained and certified before claims can be made for CVQ awards. According to Foshay (1990), Mastery-model instruction complements CBET, and it involves considerable individualisation and self-pacing. Foshay (1990) posits that Mastery-model instruction is based on three principles; learners begin instruction in a given topic only when they have fully mastered all prerequisites; learners progress to the next segment only when they have demonstrated mastery and learners stay in instruction as long as they need to master the objectives.

Learning Models and Theories that Support CBET

Constructivism. The constructivist learning theory postulates that learners construct their own knowledge individually and collectively by integrating new information with knowledge gained from past experiences (Kumari, 2014). It was pioneered by Jean Piaget and the works of Lev Vygotsky was also crucial in its development. In the constructivism approach to learning, learners construct their own knowledge and understanding through experience and reflection. As such, it is active, constructive, goal-directed, diagnostic and reflective (Simons, 1993).

The constructivist approach assumes that each learner possesses a repertoire of conceptions and skills which are used to build knowledge with the aim of solving problems within their environment (Kumari, 2014). Therefore, the learner is positioned at the centre of the educational process where knowledge is actively constructed rather than passively received. The knowledge an individual possesses is therefore a function of prior experiences, mental structures, and beliefs that are used to interpret objects and events.

The constructivist approach posits that when a learner encounters something new, it is reconciled with previous ideas and experiences, and they may either change what they believe or discard the new information as irrelevant. Vygotsky's influence on the theory sees learning as a social activity that involves sharing and application

through the zone of proximal development (ZPD), where the social setting, culture, the environment and context play a significant role in constructing knowledge. Learners therefore actively build on their own knowledge through social interactions such as asking questions, exploring and assessing what they know.

Constructivism dictates that the role of the teacher be modified to assist students in constructing knowledge rather than regurgitate. In this instance, the teacher therefore provides the setting, poses challenges and offers support to encourage cognitive construction (Chaille, 2008). Teachers as experts in the subject with a repository of experiences will therefore guide student's activity, provide examples and stimulate discussions among students about the subject matter (Flynn (2005); Kara (2018)). Teachers can employ a number of teaching methodologies in the classroom such as the Guided Discovery, Demonstrations, and Cooperative Learning. Teachers ensure that pre-existing conceptions of the students are understood and guide the activity to address and build on them. The use of constructivism by teachers encourages students to constantly assess how an activity is helping them gain understanding.

Scaffolding. According to Clancey (1995), instructional scaffolding is a dynamic process where an expert, for example the teacher, deliberately expands a novice's skills (the learner) based on feedback from the novice in practice. The teacher and learner progress together through the ZPD, reciprocally building shared experience and representations. As a teaching method, scaffolding enables a learner to gradually solve a problem, carry out a task, or achieve a goal with less support/dependence on the teacher.

Situated learning. Situated learning is an instructional approach concerned with how learning occurs every day in a situated learning environment such as a community of practice. This theory postulates that learning occurs in all human activity, all the time. It was developed by Jean Lave and Etienne Wenger in the early 1990s, and follows the work of Dewey, Vygotsky, and others (Clancey, 1995). According to Orsmond and Merry (2017), new learners proceed on a learning journey in authentic learning environments from initiation to more central engagement where they are actively immersed and are allowed to talk about activities, identities, artefacts and community knowledge and practice. Students in a situated learning environment

are interdependent learners in that learning does not occur as a result of a teaching curriculum but from participation in a given practice as a member of a community. Learning is therefore dynamically constructed (Clancey, 1995), since students actively participate in the learning experience and create meaning from the real activities of daily living (Stein, 1998) where learning occurs relative to the teaching environment. Situated learning activities in a TVET environment include:

- Field trips, where students actively participate in an unfamiliar environment
- Cooperative education and internship experiences in which students are immersed and physically active in an actual work environment
- Music and sports where actual settings of these events are replicated, e.g., orchestras, studios, training facilities
- Laboratories and child-care centres used as classrooms in which students are involved in activities which replicate actual work settings.

These examples illustrate that students are actively involved in addressing real world problems. As the practice implies, the student is “situated” in the learning experience and knowledge acquisition becomes a part of the learning activity, its context, and the “culture in which it is developed and used” (Oregon Technology in Education Council, 2007). Students form or “construct” their own knowledge from experiences they bring to the learning situation; the success of situated learning experiences relies on social interaction and kinesthetic activity.

Discovery learning. Discovery learning is an inquiry-based, constructivist learning theory that occurs in problem solving situations where the learner draws on his or her own experience and existing knowledge to discover facts and relationships and new truths to be learned. This learning theory instils the quality of critical thinking skills in students and enhances teaching and learning activities such as higher order thinking skills, active learning and self-directed learning (Nusantari, Damopolii, Salim & Suleiman, 2021).

In the implementation of discovery learning, teachers are not the source of information but serve as the facilitator, thus they develop strategies in dealing with problems in the classroom and real-life situations. Students receive information from other accessible resources, and they interact with the world by exploring and

manipulating objects, wrestling with questions and controversies, or performing experiments (Nusantari et al., 2021). As a result, students may be more likely to remember concepts and knowledge discovered on their own (in contrast to a transmissionist model). Models that are based upon discovery learning model include: guided discovery, problem-based learning, simulation-based learning, case-based learning, incidental learning, among others. Proponents of this theory believe that discovery learning encourages active engagement, promotes motivation, autonomy, responsibility and independence, develops creativity and problem-solving skills and tailors learning experiences.

Multiple intelligences. Howard Gardner has identified seven distinct intelligences. This theory has emerged from cognitive research and "documents the extent to which students possess different kinds of minds and therefore learn, remember, perform, and understand in different ways," (Gardner, 1991). The cognitive theory of multiple intelligences posits that students learn, remember, perform, and understand in different ways, including various intelligences, such as musical–rhythmic, visual– spatial, verbal–linguistic, logical–mathematical, bodily–kinesthetic, interpersonal, intrapersonal, and naturalistic and the more recent naturalist and existential.

Gardner (1991) posits that these differences "challenge an educational system that assumes that everyone can learn the same materials in the same way and that a uniform, universal measure suffices to test student learning" (p. 12. Indeed, as currently constituted, our educational system is heavily biased toward linguistic modes of instruction and assessment and, to a somewhat lesser degree, toward logical-quantitative modes as well." Gardner argues that "a contrasting set of assumptions is more likely to be educationally effective. Students learn in ways that are identifiably distinctive. The broad spectrum of students - and perhaps the society as a whole would be better served if disciplines could be presented in a number of ways and learning could be assessed through a variety of means." The learning styles are as follows:

Visual-spatial. Thinking in terms of physical space, for example, architects and sailors. Learners are very aware of their environments. They like to draw, do jigsaw puzzles, read maps etc. They can be taught through drawings, verbal and physical imagery. Tools include models, graphics, charts, photographs, drawings, 3-D

modelling, video, videoconferencing, television, multimedia, texts with pictures/charts/graphs.

Bodily-kinesthetic. Using the body effectively, like a dancer or a surgeon. Learners have a keen sense of body awareness. They like movement, making things and touching. Students communicate well through body language and be taught through physical activity, hands-on learning, acting out, role playing. Tools include equipment and real objects.

Musical. Demonstrating sensitivity to rhythm and sound. Learners love music, but they are also sensitive to sounds in their environments. Learners may study better with music in the background. They can be taught by turning lessons into lyrics, speaking rhythmically, tapping out time. Tools include musical instruments, music, radio, stereo, multimedia.

Interpersonal. Understanding, interacting with others. These learners learn through interaction. They have many friends, empathy for others, street smarts. They can be taught through group activities, seminars, dialogues. Tools include the telephone, audio conferencing, time and attention from the instructor, video conferencing, writing, computer conferencing and E-mail.

Intrapersonal. Understanding one's own interests, goals. These learners tend to shy away from others. They're in tune with their inner feelings; they have wisdom, intuition and motivation, as well as a strong will, confidence and opinions. They can be taught through independent study and introspection. Tools include books, creative materials, diaries, privacy and time. They are the most independent of the learners.

Linguistic. Using words effectively. These learners have highly developed auditory skills and often think in words. They like reading, playing word games, making up poetry or stories. They can be taught by encouraging them to say and see words, read books together. Tools include computers, games, multimedia, books, tape recorders, and lecture.

Logical-mathematical. Reasoning, calculating. Learners conceptually, abstractly and are able to see and explore patterns and relationships. They like to experiment, solve puzzles, ask cosmic questions. They can be taught through logic games, investigations, mysteries. They need to learn and form concepts before they can deal with details.

Naturalist intelligence. Recognising objects in nature. Learners appreciate, classify and categorise objects (Gardner, 2006). They connect the things of everyday life with nature, for example in subjects where they are required to care for animals and plants.

Existential intelligence. Pensiveness on human existence. Learners make connections to what is being learned and the world outside the classroom (Gardner, 2006). Learners can do so on field trips and internships.

CBET Critiques

The CBET approach has been criticised by several researchers who concluded that the concept of CBET is confusing, not empirically sound and does not meet the needs of a learning society (Chappell, 1996; Ecclestone, 1997; Hyland, 1994; Kerka, 1998).

Robinson and Misko (2000), in their contribution to the “Impact of CBET in Economic Development” (p. 15), indicated that the supporters of CBET have been unrealistic at times with respect to their expectations as there have been a number of problems with the implementation of CBET in all countries. They highlighted the assessment and accreditation of competence as the most controversial issue. They also proffered that there was a need for a holistic objective approach to assessment to determine validity of competence.

Gonzi (1994) in his “Review of International Trends and Developments in CBET”, p. 30, made the point that the standards approach to vocational education was economic rather than educational and will therefore lead to a conflict about the educational value of such a policy.

Researchers have also expressed concerns about the marginalisation of the theoretical knowledge in CBET (Billet, 2001); Wheelahan (2010); Young (1999), (2007), (2009).

Some critics also argue that competency- based assessment criteria are not specific and comprehensive enough and that it is impossible to write unambiguous assessment criteria (Jones, 1999).

Conceptual Framework of the Study

According to Lester (2005), a conceptual framework is based on the logic that the concepts selected for investigation and anticipated relationships among them will

be appropriate based on the research problem. The framework may include theories, aspects of practitioners' knowledge, based on what the researcher determines will be pertinent to answer the research questions.

Given that the purpose of this mixed method study was to investigate stakeholders' perceptions and experiences about the CVQ to determine its impact on the delivery and assessment for the CVQ level 1 and the extent to which the approaches employed in the delivery and assessment of the CVQ were in accordance with CBET, the conceptual framework for the study as depicted in Figure 1 was adapted from the CARICOM approved "Model of Certification for Basic Labour Competencies". The concepts within the framework are based on the processes for implementation of the CVQ, the theories underlying CBET, the relationship among the stakeholders involved in implementation as well as the relationships among the identified concepts.

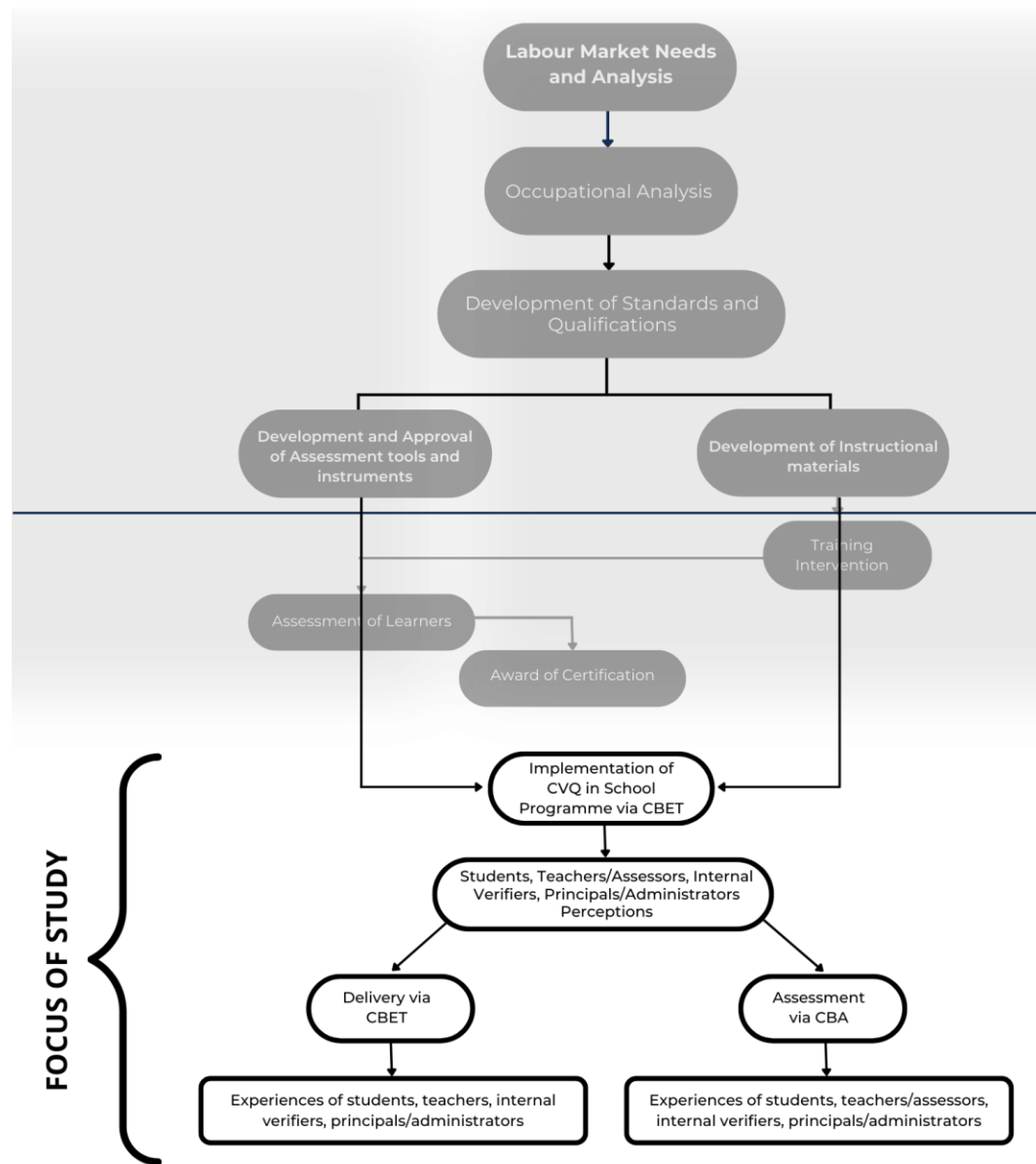


Figure 1. Conceptual framework of the study. Modified from the Model of Certification for Basic Labour Competencies, 2005 (CANTA, 2005).

The certification model is grounded on the CBET approach which systematically identify and develop knowledge, skills and attitudes (KSA) required for a particular job. The model ascribes to a demand led approach to training and

certification that is demand driven. Industry experts define occupational standards (OS) from which learning outcomes are derived. These standards are used to develop modular curricula. Each module/unit is certifiable and facilitates training and assessment utilising CBET throughout the CVQ system via a modularised programme. The administrative requirements for effective implementation of the CVQ in secondary schools requires key elements such as curriculum development, instructional materials development, staff development, which includes CBET Instructor training, assessor and verifier training and certification, quality control and public awareness (NCTVET, 2006).

Implementation of the CBET Approach

Notwithstanding its critiques, the CBET approach is an effective method of delivery for mastery of skills and assessment in TVET. It measures skills and performance/competencies. The effectiveness of a TVET System, or the extent to which training outputs correspond, especially in terms of quality, to what it is intended to produce, is ensured through comprehensive and continuous instructor/teacher training and curricula development, and through the adaptation of a system that focuses on exposing trainees/students to much more exposure in the relevant industry rather than chalk and talk lectures. The successful result of this approach is realised when the candidates are assessed and deemed competent. (Arguelles & Gonzi 2000).

The competency-based approach to training and assessment has been employed in delivering and assessing for the CVQ. There is a dearth of literature on the effectiveness of this approach among training providers in the Caribbean.

The CARICOM Regional TVET Strategy for Workforce Development and Economic Competitiveness has endorsed the use of the CBET approach as one of the Region's responses to successfully compete in a global economy. This position is consistent with those countries such as the USA, New Zealand and the UK where CBET has been implemented. Baartman, Bastiaens, Kirschner and Van der Vleuten (2007) also acknowledged that to effectively function in today's complex and global societies, learners need to be flexible and adaptive such as is possible in an education system that is learner-centred and competence-based.

Harris, Guthrie, Hobart and Lundberg (1995) have predicted that the effective implementation of CBET cannot be immediate since it should take

approximately ten years. They supported this position by alluding to three major concepts of CBET. Harris et al. (1995) postulated that CBET is holistic in its approach and not task-based and piece meal as it had been originally conceived. CBET, they indicated is more dynamic in nature since its implementation utilises the process concept. In this scenario, inputs, processes and outputs may vary depending on the contextual circumstances. Inherent in this model is the feedback loop which informs adaptations of the system. Harris et al. (1995) opined that the adoption of CBET is actually good practice. They observed, however that the characteristics and principles of CBET would have been utilised in the education and training sphere for a long time before being conjoined and coined as CBET.

A report on the structures and functions of CBET published by the Federal Ministry for Economic Cooperation and Development in 2011 posited that the successful implementation of CBET requires clear understanding that this approach is different from the traditional approach to TVET. It also requires teachers/assessors/trainers to be well informed about the concept and the assessment procedures employed.

Harris et al. (1995) categorised requirements for the successful implementation of CBET into knowledge, skills and attitudes. The knowledge requirements include one's understanding of the key characteristics of CBET as well as the advantages, limitations, components and alternatives. With respect to the skills, the researchers identified the orientation of stakeholders to CBET, design of a CBET programme, acquisition and delivery of learning materials and resources and the establishment of appropriate facilities and procedures for managing CBET. Attitudes included stakeholder's enthusiasm about applying the relevant principles when implementing CBET and solving problems that are encountered as well as easement with the CBET philosophy and the potential of the CBET system.

The curriculum developed for the CVQ should be dynamic, adjusting to fast-changing technical and scientific knowledge, and the competitive business environment. Relevance is ensured through the identification of means to assess the needs of both individuals and the labour market with the view to ensure that the CVQ System is consistent with the needs of the labour market and relevant to current and future job opportunities.

In order to ensure that a TVET System contributes to national development, i.e., a system that is demand driven, it will be necessary to create a system that is flexible and has a high rate of participation of all concerned parties. Flexibility can be obtained through modularisation of the TVET System, as occurs with the CVQ since a **unit award** is issued for each unit achieved. Each unit of activity is further broken down into several **unit elements** that define the range of tasks an employer would expect of an individual. The CVQ also allows for flexibility on the instructor's part since it provides opportunities to employ different methods of teaching that are in sync with the learners' style and abilities. CBET complements and improves upon the traditional academic approach.

The CVQ System is responsive as it responds to and remains current with local, regional and international TVET trends and labour market training needs. Each occupational area is defined by a set of **occupational standards** that describe the kinds of activities someone working in the respective discipline would be expected to master. All NTA approved National Occupational Standards (NOS) are agreed upon by a group of individuals recognised as industry experts by the NTA. The standards therefore represent current best practices that are relevant to the world of work and are benchmarked against international standards. An NOS becomes Regional Occupational Standards (ROS) when it is approved by CARICOM in support of the CVQ.

The CVQ System can be accessible as it ensures that there are alternative entry pathways and opportunities for vertical and horizontal mobility. The use of the CBET philosophy improves student success and retention rates, given that assessment of learning and competency is a multi-step process of collecting evidence on student's knowledge, skills and attitudes to demonstrate competency. The CVQ System can be affordable through the identification of cost-effective techniques for teaching and learning via the CBET approach and the identification of shared resources and facilities e.g., established TVET institutions used as Workforce Assessment Centres (WACs) and the use of facilities in secondary schools. A study conducted by the ILO on "Transition to Employment in CARICOM Member states" revealed that all NTAs have incorporated CBET methodologies to facilitate the delivery of TVET, however they all reported experiencing varying challenges with CBET delivery. The issues

included, inter alia, absence of national qualifications frameworks, absence of adequate systems and processes, administrative and financial issues, insufficient numbers of technical experts inclusive of trained assessors and verifiers and limited equipment to facilitate TVET delivery via CBET (Fletcher, 2020).

Competency-Based Assessment (CBA)

For the purposes of this research, assessment may be defined as “an ongoing process aimed at understanding and improving student learning. It involves making our expectations explicit and public; setting appropriate high standards for learning quality; systematically gathering, analysing and interpreting evidence to determine how well performance matches those expectations and standards; and using the resulting information to document, explain, and improve performance” (Angelo, 1995).

The overarching purposes of CBA in the implementation of the CVQ are to measure competencies and to award the CVQ, however, Pratt (1994) has identified several purposes of assessment which can also be applied to CBA, inter alia, to diagnose student learning, as an integral part of instruction, to consolidate student’s knowledge prior to moving on to the next unit of instruction, to direct students to instructional priorities and to influence their approach to learning, to enhance students’ self-concept and sense of efficacy and to provide organising targets for learners.

Assessment is a critical component of education reform efforts. The ‘assessment revolution’ speaks to the value of formative assessment in facilitating learning, the shift from assessing facts only to assessing skills, a focus on real-world tasks in the assessment process and the value of self and peer assessment. The results of an assessment can lead to decisions about a learner or the programme being pursued by the learner. The decisions relating to the learner may indicate if the learner is actually able to perform a given job, progress to a particular course of study and may even assist in identifying gaps in instances where the learner is deemed not yet competent. With regard to a learning programme, these assessment decisions can indicate the quality of the programme, the improvements or changes needed or can be used to inform reform changes to the education and training system.

Since the results of assessment determines a learner’s progression and mobility within a given course or field of study and by extension, the education and training

system, it is recommended that the overarching principles of assessment must be made clear to all stakeholders up front, for example learners, parents, employers, learning institutions and the general public. This will assist in assuring the credibility of the process and will provide accurate information about the learner.

CBA involves the assessment of knowledge, skills and attitudes that is based on the recognition of competencies from pre-determined standards. The evaluation of the learner is therefore based on these pre-defined competencies and behavioural indicators. CBA is known by many other names such as performance assessment, competence assessment, direct assessment, authentic assessment, innovative assessment and continuous assessment. Many researchers distinguish between CBA and traditional forms of assessment such as multiple choice and restricted essay tests, however, Baartman et al. (2007) posited that CBA also includes traditional type testing which should really be complementary to CBA.

A report on NVQ implementation in the UK noted a number of assessment difficulties including the cost of assessments, the paperwork involved and the reliability of assessments among other factors (Employment Department, 1993, p. 35). The Beaumont Committee reported on the problem of consistency in assessments for NVQs in 1996 (Beaumont, 1996). Challenges in curriculum delivery for TVET programmes using the CBET approach have been documented. A study conducted on the adoption of competency-based education (CBE) in TVET Institutions in Ghana has revealed that effective implementation of CBE was limited due to the limited number of students enrolled in the programme and the lack of awareness and proper readiness for the CBE approach (Acakpovi & Nutassey, 2015).

Assessment Strategies Used in CBA

Assessment methodologies. Methods of assessment suitable for CBA include inter alia:

- Oral questioning/presentation,
- Written testing,
- Observation/Practical demonstration,
- Product examination,
- Portfolio assessment,

- Professional discussion and
- Project

Oral questioning/presentation. This method of assessment allows the students to express themselves, sometimes giving reasons for conducting the activity in a particular way. It can be effectively used together with observation/practical demonstration and to support all other assessment methods. However, only one individual can be assessed at a time, and it can be stressful for students who are not used to presenting. The oral skills of the teacher must be highly developed for this method to be effective.

Written testing. Written testing is very effective in assessing understanding and application of knowledge. However, this assumes well developed literacy skills and should be used sparingly as the student with language and literacy challenges should not be disadvantaged.

Observation/practical demonstration. Practical demonstration is ideal for the assessment of practical and observable skills. It reflects the students' abilities, attitudes and skills. However, with this method the assessor can be obtrusive, it is time consuming, and the student must be observed on a number of occasions in order to collect sufficient evidence.

Product examination. Product examination focuses on the evaluation of the final outcome of performing the task or creating the product. It is a complete example of work produced by the student.

Portfolio. A portfolio is a purposeful collection of pieces of evidence demonstrating the learning and performance of work produced by the student over a period of time.

Professional discussion. A professional discussion is where the teacher focuses on evidence already provided or demonstrated by the student. This is a more formal type of oral questioning and is often used to elicit previous knowledge. This method of assessment is time consuming as the teacher must develop guiding questions to be used to elicit the students' competencies as well as a set of expected responses.

Project. A project is a planned set of interrelated tasks to be executed over a fixed period. Projects are often used to assess a group of competencies; however, these may be time consuming for individuals to complete and for teachers to judge.

Quality Assurance for the CVQ

For the purpose of this study, quality assurance is “the means through which an institution ensures and confirms that the conditions are in place for students to achieve the standards set by it or by another awarding body” (Middlehurst, 1997, p. 41).

Quality assurance for the delivery of the CVQ via the CBET approach requires, inter alia, a well-documented and administered system inclusive of internal and external verification processes. These are essential in establishing and maintaining the integrity and credibility of the TVET system. (CANTA, 2015).

The CANTA Model for Workforce Training Assessment and Certification refers to quality assurance in the context of the model as process-oriented and proactive. The model posits that to maintain the training system emphasis must be placed on training standards and objectives, competencies to be achieved, efficient use of resources and costs within the training system (CANTA, 2005).

Morris (2013) posited that quality is essential to the success of any TVET delivery system and indicated that linking training to certification requires a uniform framework based on competencies, standardisation of competencies, occupational standards, the development of NQF and the certification of competencies.

Quality assurance requirements for the implementation of the CVQ via the CBET approach include the procedures employed to ensure that the objectives of training and assessment are achieved. Secondary schools implementing the CVQ are required to establish an internal quality assurance system to assure competence. Specific personnel are identified to ensure that the requisite quality checks are conducted, inclusive of record-keeping, verification of competence and monitoring (NCTVET, 2006).

Internal verification, which is part of the overall process of assessment verification to ensure quality and consistency of assessments, is managed by the secondary schools implementing the CVQ level 1. Internal Verifiers (IVs) act as the school’s quality assurance agent. They must have a technical understanding of the

occupational area for which they are verifying assessments and are required to be trained and certified to perform specific roles within the CVQ system (CANTA, 2015). Internal verification focusses on the validity of assessment instruments, reliability of assessment decisions, practicability of assessment instruments, consistency of assessment practice within the school over time and sufficiency of evidence. IVs are required to monitor and support the assessor to manage the quality of training and assessment activities and ensure that the assessment process is being followed (CANTA, 2015; Caribbean Examinations Council [CXC], 2015).

The process involves sampling of evidence, review of assessment records to ensure that assessment results are accurately and appropriately recorded in accordance with the requirements of the CVQ, review of assessment practices and observation of assessors to ensure sound and fair assessment practice and a review of conditions within the system that impact the assessment process and recommend corrective practice where required. These activities are conducted via regular internal verification and standardisation meetings with assessors and sampling and observation of assessors. (CANTA, 2015) A mentor system to support newly trained IVs is recognised as good practice within the CVQ system.

Implementation of CBA requires the maintenance of quality via credible assessment procedures. Given the modular nature of CBET, it is imperative that accurate records are maintained to ensure credibility, transparency and confidence in the learner and the overall programme. Learners must be able to have access to their records. Quality assurance for the CVQ also includes verification of assessment procedures and results by independent external experts. This ensures that the quality of the output is consistent and in keeping with the established quality assurance criteria (NCTVET, 2006).

Secondary schools offering the CVQ are required to have a quality assurance system in place and must be approved by the NTAs to deliver training and assessment. The areas evaluated include statutory compliance, staff resources (including teachers/assessors and verifiers), physical resources, learning resources, internal verification procedures, external verification procedures and management of information (CXC, 2015).

Secondary schools offering the CVQ are audited by the NTAs in countries where these have been established or by CXC. Schools are required to submit to a Facilities audit to determine adequacy and sufficiency of staff resources, physical resources, learning resources and statutory compliance.

CXC, as the certifying body for the CVQ level 1 in secondary schools in the Region has documented the requirements for the successful delivery and assessment of the CVQ via the competency-based approach. These requirements, referred to as the foundations of good practice, detail the tenets of CBET and CVQ in relation to students and teachers/assessors that administrators should be aware of.

Teachers/assessors are required to:

- have access to the regional occupational standards (ROS) and the Facility Standards
- have access to all instructional delivery material, space, tools and equipment
- be qualified in skill area and have the requisite industry experience
- be certified in CBET/CBA and internal quality assurance methodologies
- use a variety of teaching/instructional methods and aids
- operate in an environment that simulate workplace and work experience opportunities
- provide continuous and detailed feedback to students on their progress

Student requirements:

- Students' training programmes are individualised and self-paced
- Students' records are maintained and reflect their progress
- Students' rating reflects the level of competency achieved.
- Students must be informed about criteria and attitudes important to the occupation
- Students are allowed to repeat learning activities until competence is achieved.

Programme completion is based on satisfactory achievement of all specified competencies.

There must be industries in the local area with which the school can make arrangements to expose teachers and students to current industry standards (CXC, 2015).

Stakeholders' Perceptions of TVET

Student Perceptions

Perceptions are deeply ingrained assumptions, generalisations or even pictures or images that influence how people understand the world and take action (Senge, 1990). According to Bargh, Chen and Burrows (1996), perceptions can be the impetus for behaviour. Several researchers have suggested that students' perceptions can influence how students learn and ultimately learning results (Elen & Lowyck, 1999; Entwistle 1991; Wesselink 2010). A number of research studies have been conducted in various parts of the world on students' perceptions towards vocational education. Almost all of the research conducted alluded to the dearth of research in vocational education.

Research conducted in Australia on the secondary school students' perception of VET in Schools (VETiS) has revealed that VETiS was experiencing an 'image problem.' The researchers concluded that there was a need for a re-examination of how VET curricula were designed and delivered and made the point that there was still much more work to be done with regard to TVET (Dalley-Trim et al, 2008).

A longitudinal study conducted by the Tertiary Entrance Procedures Authority (TEPA) in Queensland, Australia (1995–1999), investigated the impact of school policies and practices on students, as well as other influences that affect individual subject choices and career decisions for senior school. The study revealed constraints faced by students when selecting subjects such as limited subject offerings, timetabling and the short time frame available to make decisions (Tertiary Entrance Procedures Authority (TEPA), 1998).

A study conducted by Ofqual on the perceptions of subject difficulty and subject choices among students and teachers in secondary education across schools in England revealed that perceptions of subject difficulty appeared to be associated with subject choices, however, they were not the main determinant of decision making. The study revealed that students were self-motivated as well as motivated by their teachers to avoid subjects they found difficult. They were also willing to select subjects when they enjoy them and/or believe that they were useful to them in the future (Cuff, 2017).

Chambliss and Chiariello (1988) examined the opinions of 265 randomly selected students from vocational high schools in four states in the United States of America (USA) to determine their perceptions about various aspects of vocational education. Findings revealed that students felt there was a need for significant changes in their current vocational technical education programmes in areas relating to those that will make them more employable, on the job and employability skills training.

A study conducted by Hatzios (1996) in Virginia, USA, focused on how students feel about particular attributes of a vocational programme. Results indicated that students' attitudes were more related to the tangible features of pursuing vocational programmes. The researcher concluded that research-based information can assist vocational educators to develop relevant promotional material that will serve to adequately inform and attract prospective students to appropriate vocational programmes. He also concluded that research can identify and assist in resolving problems in vocational education programmes.

Jones, Womble and Searcy (1997) assessed urban students' perceptions towards secondary trade and industrial (T&I) education in improving course offerings in urban secondary schools. The findings of the study revealed that there should be collaboration among teachers delivering academic courses and those delivering T&I courses with a view to increased integration and applicability of content. This finding is consistent with those of Chambliss and Chiariello (1988), where they sought to rationalise the resistance of vocational education students surveyed in their study to increased emphasis on math and science. The researchers suggested that the resistance could have been attributed to the failure of math and science teachers to apply the content of their courses to the needs of vocational education students.

A pre-survey of key stakeholders' attitudes towards TVET was conducted in the Gaza Strip in 2013 to gather baseline data for a project on "Enhancing Youth Employability in the Gaza Strip." A mixed methods approach was employed as the researchers used structured questionnaires in the quantitative phase and in-depth interviews and Focus Group discussions in the qualitative phase of the project. The researchers examined the perceptions and attitudes of 250 TVET students towards TVET under various aspects and characteristics of TVET institutions, including

managerial and organisational, workshop equipment, teacher capacities, curriculum and student vision (Islamic Relief Palestine, 2014).

With respect to the managerial and organisational aspect, the majority of the TVET students surveyed expressed their dissatisfaction about the lack of incentives available to them such as scholarships and training. Forty five percent of the TVET students indicated that there were no field training opportunities available for them to apply theory learnt. On examining the issue of workshop equipment, the majority of the students (88%), indicated that TVET institutions were not employing the latest technology consistent with current labour market needs and that there was a low equipment to student ratio. More than half of the TVET students (57%) also concurred that there was a low technical laboratory to student ratio. However, 74% of the TVET students surveyed expressed satisfaction with the suitability of the equipment used to deliver the curriculum (Islamic Relief Palestine, 2014).

Regarding teacher capacities, the majority of the TVET students (89%), indicated that they were directly supervised and guided by the teachers who encouraged teamwork and also assisted them in applying underlying theory to practice. TVET students (77%) believed that their instructors/teachers were familiar with the scientific and practical knowledge in their area of specialisation, whilst 43% were of the opinion that their teachers were not utilising modern teaching tools (Islamic Relief Palestine, 2014).

With regard to the curriculum used, 64% of the TVET students indicated that it was more theoretical than practical and 75% felt that it was relevant to labour market needs and could assist them in getting a future career. Results of the study also revealed that 58% of the students were familiar with the importance of TVET and the various areas in the field before they actually enrolled in TVET programmes. When student vision was examined, the study revealed that the majority (83%) of the students expressed pride in belonging to a TVET school and indicated that they selected their area of specialisation and enrolled in the TVET School based on their own volition. Many students (69%) did not believe that pursuing a TVET programme will pose any social problems for them. With respect to the impetus for enrolling into TVET programmes, 59% of the TVET students attributed this to their colleagues and

neighbours, whereas 75% indicated that they were encouraged by their families (Islamic Relief Palestine, 2014).

A National TVET Perception Survey conducted by the National Training Agency of Trinidad and Tobago (NTATT) in 2020 revealed that a significant percentage of trainees and students were unaware of the acronym “TVET”. Trainee respondents did not consider the pursuit of TVET as an imperative for employment and indicated that family and relatives were the main influencers of their decision to pursue TVET programmes, however, this was also true for those who never pursued TVET courses. It was also revealed that only few teachers and instructors provided students with information on career paths in TVET and encouraged them to pursue skills training (NTATT, 2020).

Teacher Perceptions

Teachers’ perceptions influence their teaching behaviour (Roelofs & Terwel, 1999; Wesselink, 2010). Asahel Consultants examined the perceptions and attitudes of TVET teachers and principals via focus group discussions and interviews. Findings revealed that TVET teachers and principals were not generally satisfied with the attempts to improve TVET institutions. One of the major problems identified was that the curriculum and equipment were not aligned to the latest technology and skills of teachers.

Results indicated that teachers had a full appreciation of the important contribution TVET can make in strengthening the labour market and the GDP. TVET teachers and principals’ attitudes towards TVET were generally positive and results revealed that they were committed towards achieving the goal of TVET. They however stressed that the impact TVET can make will be dependent on the level of support provided to the TVET schools. TVET principals and teachers believed that there was sufficient networking among the TVET institutions, the private sector and the labour market. They indicated that the short-term job attachments and field visits offered to TVET students were not sufficient. In addition, they felt that the TVET institutions were not keeping up with the rapid advances in technology in the labour market and this had contributed to the creation of skills mismatches between TVET institutions and labour market needs. TVET teachers’ perceptions with respect to adequacy of the duration of TVET programmes varied. Some felt that a two-year

period was adequate, whereas others felt that with respect to the duration of the programmes, the distinction should be made between students who will work immediately after graduation and those who will continue their education. Some teachers felt that for students who would like to continue their education the two-year period was adequate, however, for those who will work after graduation, the two-year period of training was insufficient. TVET teachers showed keen interest in providing occupational career education to TVET students. TVET principals expressed dissatisfaction about the inadequate budgetary allocation to TVET schools and felt that this had a negative impact on their ability to improve TVET programmes. (Islamic Relief Palestine, 2014).

Tshabalala and Ncube (2014), examined teachers' perceptions on challenges faced by rural secondary school teachers in the implementation of a TVET policy in Zimbabwe which mandated all secondary schools to offer TVET programmes to all students. The quantitative study randomly sampled 120 teachers in the Nkayi district. The research questions focused on teachers' views on TVET, challenges faced by schools in implementing TVET programmes and sought to obtain teachers' opinions on how schools can be assisted in order to improve the implementation of TVET programmes. The findings of the study revealed that there were many challenges in the implementation of TVET programmes. This included lack of teacher expertise, lack of equipment to teach in the various occupational areas, inadequate practical laboratory facilities, lack of qualified teachers to teach all areas and a reduction of teaching time since teachers were timetabled to teach not only in their areas of specialisation but also in other areas for which they were not qualified. Findings also revealed that schools were unable to secure industrial attachment for students, lacked the requisite funding to offer the TVET programmes and lacked the support from parents of the students pursuing the programmes.

A Public Secondary School Teacher Survey on vocational education was conducted by the U.S. Department of Education to provide data on the context of vocational education in public secondary schools, inclusive of course content and activities. Teachers were asked to respond to a number of questions to indicate the seriousness of various potential problems in the vocational education programmes in their secondary schools. Among the problems reported were time available for

working with students, access to computers and maintaining high instructional standards (National Center for Education Statistics, 1994).

In an article that examined the concerns of teachers implementing CBET in the Australian VET sector, including the implications for teaching and assessment, Jones (1999) identified the role of judgement in CBA as a source of confusion and distress for assessors in the Australian VET sector. Teachers believed that they lacked confidence in judging a candidate as competent or not yet competent. Jones concurred that assessment in the VET sector requires the exercise of tacit judgement on the part of the assessor, who is also required to have expertise in industry as well as sound knowledge of vocational education and assessment techniques and posited that the lack of such skills shows the urgent need for professional development for VET teachers.

There continues to be much discourse about the negative perception of TVET programmes in the Caribbean as evidenced by numerous newspaper articles and documents emanating from the various Ministries of Education, however, a search for peer reviewed journal articles and empirical research in support of this position proved futile. Dunn-Smith (2011) penned a response to the Ministry of Education's recommendations for students who were not "deemed ready" for CSEC. The Ministry indicated that those students should register for the CVQ. Dunn-Smith's response sought to provide clarity on the purpose of the CVQ and made a plea to the nation to refrain from perceiving the CVQ as a qualification for students who are not academically inclined.

Trinidad and Tobago Unified Teachers Association (TTUTA) (2016) posited that although TVET was seen as inferior and students who chose to pursue TVET options at secondary schools were perceived as less intelligent, TVET graduates continue to find jobs both locally and abroad. TTUTA also made reference to the implementation of the CVQ as "good and noble in intention", however, admitted that the programme had been severely affected by teacher shortage and was perceived by teachers as heavily skewed towards assessment rather than delivery and this has contributed to a "watered down approach to TVET".

Within CARICOM, the trajectory of pupils from primary schools to students in secondary schools is based on performance at the final examination at the end of

their primary education. Pupils who perform best are placed in the so called ‘prestige’ schools where TVET offerings are minimal. According to Shakes (2011), the philosophy of TVET has been shaped by the transitions throughout the agricultural and industrial eras of the 16th and 19th centuries. TVET at that time was perceived to be non-academic and primarily concerned with manual occupations with emphasis on ‘doing’ primarily by using the hands. These concepts are still negatively impacting students’ choice of TVET subjects in the secondary schools today as the public as well as parents consider the pursuit of TVET subjects as fit for only the less academically inclined.

Jules (2011) has expressed that TVET has not taken root in Caribbean education systems because notwithstanding the discourse, it is still treated by planners and seen by the public as a compensatory device. Jules opined that the public sees TVET as something suitable for students who are not ‘academically minded’. This perception is further compounded by Ministries of Education in the Caribbean since the award of scholarships is mainly limited to the academic subjects at the CAPE level.

Stakeholders’ Perceptions of NVQs

A survey conducted among employers in England on the knowledge and awareness, use and comparison of the NVQ to other qualifications revealed that less than half of the employers surveyed indicated that they understood the NVQ. Employers perceived the NVQ as a credential beneficial to employees only if they were moving to another employer. Although awareness of the NVQ was high among employers, understanding of the NVQ was significantly lower.

More employers preferred non-NVQ qualifications over NVQs. These non-NVQ qualifications were also identified as requirements for jobs in advertisement rather than the NVQ. Some disadvantages of the NVQs gleaned from respondents included too much bureaucracy and jargon, lack of understanding of the NVQ, the need to use NVQs alongside other qualifications since they are limited in terms of underpinning theory and gaps in NVQ coverage (Roe, Wiseman & Costello, 2006)

Positive features of the NVQs gleaned were that these qualifications were motivating for staff, valuable in contributing to skills development and improvement of skills among staff, flexible, relevant and beneficial to organisations (Roe et al., 2006)

A Tracer Study on NVQ certificate holders in Sri Lanka was conducted by the Tertiary and Vocational Education Commission in 2011. NVQ Certificate holders indicated that the certificate was very useful for their vocation or for articulating to higher vocational qualifications. Among the NVQ certificate holders employed, the majority indicated that the certification adequately equipped them to successfully execute their current jobs.

Stakeholders' Perceptions of CVQs

Research on the CVQ in the CARICOM region is extremely limited. However, a survey conducted by the NTATT on the “Impact of the CVQ in Schools in 2011 (Trinidad) revealed that students, teachers and principals were aware of the CVQ and believed it to be an asset. Teachers and principals opined that the pursuit of the CVQ increased the students’ chances of gaining employment and that successful CVQ graduates will assist in filling the need for skilled persons.

The majority of the students surveyed indicated that the CVQ will assist in finding employment in the future and that they will be interested in pursuing a CVQ level 2 (NTATT, 2011).

A study conducted on “Exploring the experience of Grenada with the policy of USE (Universal Secondary Education) reported on the impact of USE on School Organisation. One of the responses to the challenges of implementing USE was to add more TVET subjects to the curriculum. However, one of the principals surveyed reported that the inclusion of or the increase in the variety of Technical and Vocational subject offerings in schools was encouraged by the MOE as a means for providing greater options for students with weak literacy skills. However, the principal opined that this was not supported as a viable option since even when weak students pass the oral or practical component, they failed the written component which required competency in reading and writing. One principal suggested that technical courses should be heavily skill oriented requiring a minimum written component and credits applicable towards the CVQ so that if students improve their basic literacy skills in the future, it will serve as a foundation for the pursuit of higher qualifications (Knight, 2014).

Summary

The CVQ is a curriculum innovation that has been implemented in secondary schools by the MOE within CARICOM States. According to Fullan (1991) the intention of an innovation in education is usually to improve the effectiveness of teaching and learning and involves planned curricula changes. The implementation of the CVQ was a response to the imperatives of the CSME. The COHSOD requested NTAs, MOEs and CXC to collaborate with regard to the award of the CVQ in the secondary school system. CXC has been mandated to certify levels one and two in the region's secondary schools, through the process of Quality Assurance.

The CBET approach has been employed for the delivery of the CVQ. CBET is not without its critiques, however, this approach is an effective method of delivery for mastery of skills and assessment in TVET. A number of research studies have been conducted in various parts of the world on students' perceptions towards vocational education. Almost all of the research conducted alluded to the dearth of research in vocational education. A paucity of research on the implementation of TVET also applies to the CARICOM region. In that regard, a mixed method study was designed to investigate stakeholders' perceptions and experiences about the CVQ to determine its impact on the delivery and assessment for the CVQ level 1 and the extent to which the approaches employed in the delivery and assessment of the CVQ were in accordance with CBET, the conceptual framework was adapted from the CARICOM approved "Model of Certification for Basic Labour Competencies", 2005.

CHAPTER 3 – RESEARCH METHODOLOGY

The purpose of this mixed method study was to examine the status of the implementation of the CVQ in secondary schools of selected CARICOM states. The study investigated/explored stakeholders' perceptions and experiences about the CVQ to determine its impact on the delivery and assessment for the CVQ level 1 and the extent to which the approaches employed in the delivery and assessment of the CVQ were in accordance with CBET.

This chapter firstly explored the philosophical underpinnings of the study, inclusive of the research paradigm which dictated the research methods employed as well as the design of the study. Qualitative, quantitative and mixed research methods were elaborated, and justification for utilising the mixed methods approach outlined. Research designs used in mixed methods research were presented as well as the specific research design used for this study. The population and target population were illustrated as well as the mixed sampling design and the sampling procedure. The data collection instruments used as well as the data collection procedure were described. The chapter also outlined how the qualitative and quantitative data were analysed and how both types of data were integrated. Limitations of the study were detailed as well as the ethical considerations in doing this research study.

Philosophical Underpinnings

Given that the approach to this research study is one that employed mixed methods it was undergirded by different philosophical underpinnings.

Research Paradigm

Research enquiry should be guided by a paradigm (Makombe, 2017). The term paradigm in educational research describes the researcher's "worldview" (Mackenzie & Knipe, 2006, as cited in Kivunja & Kuyini, (2017); Creswell, 2012). This worldview represents how the researcher sees the world, influences the methodology employed and how the data will be analysed (Kivunja & Kuyini, 2017).

A dialectical paradigmatic approach as posited by Greene and Caracelli (2003) was adopted as two paradigms were employed, a pragmatist as well as a realist approach. According to Creswell (2012), the pragmatist utilises procedures that are applicable for a specific research problem and a variety of methods can be used. Christ

(2013, as cited in De Lisle, 2009) identified the pragmatic paradigm as the most popular for mixing methods. Pragmatism has also been used as a philosophical epistemology by researchers in the field of programme evaluation where the principles of practicality, context and consequences were utilised (De Lisle, 2009). This research study has therefore drawn on many ideas including what works as well as diverse approaches, inclusive of both objective and subjective knowledge. In addition, different forms of data collection and analyses were utilised.

Johnson and Owuegbuzie (2004) agreed that a pragmatic paradigm will offer a “middle of the road” approach both philosophically and methodologically. They also alluded to the fact that mixing methods will assist the researcher in answering many of their research questions. One of the outcomes of this research is also to provide viable recommendations about the effective implementation of the CVQ, which Johnson and Onwuegbuzie (2004) highlighted as an outcome of the pragmatic approach. However, there are limitations to utilising the pragmatic approach, *inter alia*, promotion of incremental change as opposed to more structural change in society, avoidance of philosophy, and lack of clarity of the term usefulness or workability unless expounded by the researcher (Johnson & Onwuegbuzie, 2004). These limitations can however be overcome.

Hall (2013) proposed that a realist approach can overcome the limitations of a pragmatic paradigm. According to Maxwell and Mattapalli (2010), realist ontology holds that a real world exists that is independent of our perceptions, theories and constructions. They used the term “critical realism” to encompass all of the varying terms used for realism. These authors also argue that critical realism can address some of the problems associated with other perspectives. Maxwell and Mattapalli (2010) endorsed the realist approach as a valuable contributor to mixed methods research.

The realist approach, when applied to this study accommodated for the mixing of both qualitative and quantitative data since the study employed a range of topics and methods.

Research Methods

Three broad types of research methods can be gleaned from the literature. These include quantitative, qualitative, and mixed.

Qualitative Research Method

Although the alignment of qualitative research to a specific paradigm is a moot point, as gleaned from many authors (Denzin & Lincoln, 2005; Johnson & Onwuegbuzie, 2004; Wellington 2000; Richardson 2012), they ascribe qualitative research to constructivism and interpretivism. Wellington (2000) described one of the aims of the interpretive researcher as exploring perspectives and shared meanings and developing insights into situations such as those that can be found in classrooms and schools. Johnson and Onwuegbuzie (2004) alluded to a “rich and thick” direct and informal writing style of constructivists. Constructivism, as postulated by Parsons (2010) maintains that the world is socially constructed, and that people act within meaningful social constructs. People therefore operate based on “social constructs” which are “ideas, beliefs, norms, identities or some other interpretive filter through which people perceive the world” (p. 80). Parsons (2010) suggests that constructivism can provide plausible logical explanations about why people act the way they do and opined that it should “become a standard part of research design in the social sciences” (p. 98). Creswell (2009) suggested that the constructivist researcher tends to rely upon the “participants” views of the situation being studied (p. 8). The Constructivist researcher also acknowledges how their own background and experiences may impact the research and is more likely to rely on qualitative data collection methods and analysis or mixed methods. In addition, quantitative data may be used to enhance or support the qualitative data which contributes to the rich and thick data (Mackenzie & Knipes, 2006).

Sallee and Flood (2012) have endorsed the use of qualitative research as more relevant to research in educational environments. Inherent in this method is the fact that interpretation is the key to justifying claims since this interpretivist epistemology posits that knowledge is derived from meanings and events and not the events themselves (Richardson, 2012). The ontological perspective utilised for this type of research is subjective as it posits that no single reality or truth exists as reality is created by individuals in groups. According to Johnson and Christensen (2016), human thought and behaviour are viewed as “situational, social, contextual, personal and predictable” (p.1). The epistemology employed therefore focusses on the interpretation of reality and unearthing the underlying meaning of events and activities

(De Lisle, 2009). The focus is wide as the research goes deep into the phenomena being explored. The research designs may therefore include phenomenology, ethnography, case study, grounded theory, action research and heuristic enquiry (Shea & Onwuegbuzie, 2008; De Lisle, 2009). The literature review is not carried out to answer specific questions but to justify the problem (Creswell, 2012). Research objectives utilised for this type of research are usually subjective descriptions and exploratory as the interest lies in understanding and appreciating specific groups and individuals to inform local policy. The research questions are posed to learn from a small number of participants and as such they are observed in their natural settings and attempts are made to understand their views, meanings and perspectives.

Geertz (1973) as cited in Sallee and Flood (2012) p. 140 coined the data extracted from qualitative research as “thick description”. This has been highlighted as one of the greatest strengths of a qualitative research method, especially since the researchers themselves collect data in the field (Creswell et al., 2012; Sallee & Flood, 2012). However, given the fact that purposive sampling methodologies are prevalent, the research fails to take into account cultural sensitivities (Rahman, 2016). In addition, the fact that only a small number of participants are involved raises the issue of limited generalisability of findings (Sallee & Flood, 2012; Rahman, 2016). Extensive data are collected via in-depth interviews, participant observation, field and open-ended questions which generate words, images and categories of data which are analysed by searching for patterns and themes. The detailed descriptions of the participants feelings, opinions and experiences provide deeper insights into specific issues (Creswell et al., 2011; Sallee & Flood, 2012; Rahman, 2016). The results of this type of research study provide specific findings and insider viewpoints and presented in a final informal, narrative descriptive report that may contain direct quotations from research participants (Johnson & Christensen 2016). Because of the complexity of data analysis and interpretation, the process takes a long time to accomplish (Rahman, 2016). Notwithstanding this setback however, the rigorous processes used to collect the data helps researchers to provide much depth and breadth of understanding about the setting or context, especially since the researchers themselves collect data in the field (Sallee & Flood, 2012; Creswell et al., 2011; Rahman, 2016). Policy makers have associated qualitative research with low credibility (Rahman 2016). Sallee and Flood

(2012) have also lamented the fact that policy makers and stakeholders are more receptive to quantitative research when the need arises, the impetus being accountability in educational practice.

Quantitative Research Method

Quantitative research method is based on the philosophy of positivism which subscribes to objective knowledge of an external reality and is value-free and independent of the researcher. Positivists use “hard data” which can be generalised and replicated in other populations across different environments and time (Haegle & Hodge, 2015; Wellington, 2000). The quantitative research method ascribes to an objective ontology (De Lisle, 2009; Creswell 2012). It involves the “collection, analysis and interpretation” of numeric data (Shea & Onwuegbuzie, 2008, p. 45). With this approach, human thought is viewed as regular and predictable. Epistemologically, it involves a search for truth which is revealed via the testing of specific hypotheses and theories. Interest in quantitative research therefore lies in general scientific laws that inform national policy (Johnson & Christenson, 2016). However, according to Rahman (2016), positivism is unable to account for how the participants interpret their actions or how social reality is constructed and maintained. Quantitative research will also be unable to elicit deeper underlying meanings and explanations.

According to Creswell (2012), research questions formulated for a quantitative study are specific and narrow, given that the aim is to obtain specific and measurable data. Hence the method is restricted to a narrow focus. The research problem is based on causal explanation or trends observed in a particular field. Thus, a review of the literature assists in justifying the need for the research and may provide the rationale for the identification of the purpose and research questions for the study. For this type of research method, extensive literature related to the factors identified in the study must be accessible. Several research designs such as historical, descriptive, correlational, quasi-experimental or experimental may be utilised (Shea & Onwuegbuzie, 2008, p. 46). To avoid personal biases, proven, valid and reliable instruments can be used (Creswell, 2012). However, because of how the instruments are administered, there is no direct connection between the researcher and the participant and therefore, participants’ perceptions cannot be elicited (Rahman, 2016). Since the methodologies employed involve experimental and survey research, variables

are the main focus and as such, data analysis involves the identification of statistical relationships among variables, noting that variables can only be measured at the point of data collection only. Data analysis is therefore less time consuming as a statistical software package such as SPSS can be used (Rahman, 2016). Quantitative research methods may result in generalisable findings and formal statistical reports (Sallee & Flood, 2012; Johnson & Christenson, 2016). Rahman (2016) has highlighted this as one of the strengths of quantitative research since the findings can be generalised to a whole population or a sub-population. Sallee and Flood (2012) have also endorsed quantitative research as a great resource for policy makers and practitioners since a large amount of data can be collected in a timely and cost-effective manner and it can be more readily employed.

Mixed Research Method

According to Creswell (2009), a mixed method approach is one in which the researcher tends to base knowledge claims on pragmatic grounds (e.g., consequence-oriented, problem-centred, and pluralistic.) It employs strategies of enquiry that involve collecting data either simultaneously or sequentially to best understand research problems. The data collection also involves gathering both numeric information (e.g., on instruments) as well as text information (e.g., on interviews) so that the final database represents both quantitative and qualitative information. Creswell (2012) posits that the basic assumption of a mixed methods study is that the quantitative and qualitative data are merged, linked or embedded. Johnson, Onwuegbuzie and Turner (2007), after analysing quite a number of definitions coined by an array of researchers defined mixed methods as a study where elements of qualitative and quantitative research approaches are combined to provide breadth and depth of understanding and corroboration.

Teddlie and Tashakkori (2012) have identified certain “core characteristics” of mixed methods research inter alia, as follows:

Methodological eclecticism – mixed methods researchers select the most appropriate techniques to answer research questions.

Paradigm pluralism – various paradigms may be employed as the underlying philosophy.

Iterative, cyclical approach to research – research may begin at any point in the cycle, be it theories, observations or any other data point.

Set of basic research designs and analytical processes –the various types of designs which are unique to mixed method research. Creswell et al. (2011) identified these as convergent (or parallel or concurrent), sequential (or exploratory sequential or explanatory sequential), embedded (or nested) or multiphase.

Justification of using the mixed methods approach. Leech and Onwuegbuzie (2008) have attributed the increasing attention to the publication of mixed methods research studies to the fact that these studies provide answers that cannot be provided by utilising only one paradigm. This study employed a concurrent nested (embedded) strategy which was most appropriate since qualitative and quantitative data were collected simultaneously from participants in the study (administrators/principals, teachers, HODs/internal verifiers, teachers and students). These mixed methods study also provided an opportunity for the integration of a variety of theoretical perspectives as well as other advantages such as flexibility in designing the research and a variety of data which will allow for triangulation (Wellington, 2000).

The primary justification of selection of the mixed method approach was triangulation (Onwuegbuzie & Collins, 2007). Cohen and Manion (1994) as cited by Wellington (2000), defined triangulation as “the use of two or more methods of data collection in the study of some aspect of human behaviour” (p.254). Wellington (2000) distinguished methodological triangulation from among other types of triangulations as the use of a variety of methods to study the same issue. Bekhet and Zaiszniewski (2012) defined methodological triangulation as using more than one kind of method to study a phenomenon. They identified the benefits of this as assisting in confirming findings, providing more comprehensive data, increasing the validity and enhancing the understanding of the phenomena being studied. Responses from various stakeholders involved in the research were corroborated and this was expected to enhance the credibility of the findings (Johnson & Christensen 2016). The mixed method approach can answer the different research questions utilised in this study. Employing the mixed method approach also contributed to complementarity of the research findings as the results of one method may be clarified or elaborated upon by

another method (Creswell, 2012). In addition, the qualitative and quantitative data were converged, each data source having been collected independently and separately. The use of the mixed method approach also brought together a more comprehensive account of the study.

Research methods associated with both quantitative and qualitative research have their own strengths and weaknesses so that combining them allows the researcher to draw on the strengths of both (Bryman, 2006; Johnson & Christensen, 2016). Given that concurrent data collection was employed in that qualitative and quantitative data were collected simultaneously and the data were merged and compared to answer the research questions (Creswell et al., 2011; Creswell, 2012) the qualitative data collection will offset the weaknesses of the quantitative data collection and so provide a more complete understanding of the research questions. Combination of the qualitative and quantitative approaches provided more comprehensive and coherent research findings and outcomes. The use of the qualitative research method assisted in explaining findings generated by the quantitative research method. Sallee and Flood (2012) have endorsed the use of qualitative research as more relevant to research in educational environments. Rocco et al. (as cited in Tashakkori & Tedlie, 2003) also supported the mixed methods design as having “the potential to be more useful to people making policy decisions about education and society” (p. 613). The detailed descriptions of the participants’ feelings, opinions and experiences as elicited by the qualitative research method revealed specific issues and perceptions related to the assessment and delivery of the CVQ. Given the rigour in the enquiry and the data generated, this assisted in understanding participants in their specific settings. However, several weaknesses of a mixed methods approach have been identified. Contextual influences were not taken into account when the qualitative research method was employed due to purposive sampling and the fact that the research was conducted in different CARICOM countries. However, stratified random sampling was utilised with the quantitative research method and as such, findings can be generalised to the whole population. The use of the quantitative research method will also negate the aversion and low credibility policy makers ascribe to qualitative research when the findings are presented (Sallee & Flood, 2012).

Research Design

A research design provides an instrument or combination of instruments by which research will be conducted (Makombe, 2017).

Mixed Research Designs

Leech and Onwuegbuzie (2007) have highlighted the heightened attention to publications using mixed methods research, the rationale being that they tend to provide answers to research questions that cannot be provided by using only one paradigm. They put forward three dimensions of mixed methods design inclusive of:

1. level of mixing, which takes into consideration whether the research design is partially or fully mixed.
2. time orientation, which refers to the extent to which the quantitative or qualitative phases occur at the same time, or one after the other.
3. emphasis of approaches where the research questions may determine the dominance of one research design over the other.

Mixed methods research protagonists have proposed several examples of specific designs based on these three dimensions. These dimensions, when placed in a matrix, yield eight types of mixed research designs. Creswell et al. (2011) and Creswell (2012) have identified several major types of designs.

Convergent (or parallel or concurrent) mixed research design. This type of research design involves simultaneous collection of quantitative and qualitative data which are merged and subsequently compared in order to answer the research questions (Creswell et al., 2011; Creswell, 2012; Onwuegbuzie & Collins, 2007). In providing a rationale for this design, Creswell (2012) proffered that the advantages of one data collection form offsets the weaknesses of the other and provides a more complete understanding of the research problem.

Sequential (or explanatory sequential or exploratory sequential) mixed research design. The researcher collects either quantitative or qualitative data sequentially, in two phases. In some jurisdictions, there is a tendency to begin with the qualitative exploration followed by quantitative research where the qualitative data can explain more in-depth mechanisms underlying the quantitative results (exploratory sequential). In an explanatory sequential design, qualitative data is first collected subsequent to which quantitative data is collected to provide explanations for the

quantitative results (Creswell et al., 2011; Creswell, 2012; Onwuegbuzie & Collins, 2007). In a previous mixed methods research study, the author/researcher utilised an approach where qualitative data collection preceded the quantitative phase for the purpose of development. The results of the qualitative data collection were used to design an intervention as well as quantitative instruments which were then administered to a sample (Whiteman, 2006)

Embedded (or nested) research design. Quantitative and qualitative data are collected simultaneously or sequentially, but one is embedded in the other to provide new insights (Creswell et al., 2011; Creswell, 2012). One major strength of this design is the combination of the advantages of both the quantitative and qualitative approaches to research (Creswell, 2012).

Multiphase design. Several projects are conducted over time and then linked. These projects can include convergent or sequential designs. The strength of this design lies in the fact that multiple projects are used to understand the overall project objectives (Creswell, 2012).

Research design of study. Qualitative research dominated the study and hence the notation system. The notation system used is represented as QUAL + quan (Leech & Onwuegbuzie, 2007; Creswell, 2012).

A concurrent research design was used because of the nature of the study. The logistics involved in collecting data for the study was resource intensive because the geographical location of the population is dispersed throughout the CARICOM region. The data were collected simultaneously to ensure maximisation of the amount of data collected and the time spent on the field as well as it was more cost effective. Creswell (2012) maintained that concurrent data collection of qualitative and quantitative data will allow for comparison of data. This will assist in validating consistency in qualitative and quantitative findings. The research design also included a multiple or collective case study. Carolan, Forbat and Smith (2016) argued that case study and mixed methods research are not separate entities, but one can be used within the other, either in a dominant or supportive role.

A case study is a “detailed examination of one setting, or one single subject, or one single depository of documents, or one particular event” (Bogdan & Biklen (1982, p. 58) as cited in Wellington, 2000). For the purposes of this research study, a multiple

or collective case study typology was utilised since the study explored how single cases can be “meaningful” to other cases when they share a common characteristic or condition (Wellington, 2000; Stake, 2006).

This study involved a wide range of data collection techniques which is consistent with data collection in a case study. Several strengths of case studies have been highlighted such as insightfulness and accessibility, however, one of the major weaknesses identified is the issue of generalisability (Wellington, 2000). Yin (1994), as cited in Wellington (2000) responded to the problem of generalisability with specific reference to multiple case studies conducted over an extended period of time at different sites, (as occurred in this study) indicating that these can cumulatively be used to make generalisations.

Research Questions

Qualitative Research Questions

The following qualitative research questions were addressed in the study:

1. What are select stakeholders’ perceptions about the CVQ?
 - (a.) How do select students perceive pursuing the CVQ level 1 in secondary schools?
 - (b.) How do (i) select teachers (ii) select principals/administrators perceive students pursuing the CVQ level 1 in secondary schools?
 - (c.) From the perspective of (i) select students (ii) select teachers, what are the perceived influences of students’ decision to pursue the CVQ level 1?
 - (d.) How do (i) select teachers’ and (ii) select principals/administrators’ perceptions about the CVQ influence, if at all, the delivery of CVQ level 1?
 - (e.) How do (i) select teachers’ and (ii) select principals/administrators’ perceptions about the CVQ influence, if at all, the assessment for the CVQ level 1.
2. (a.) What are the experiences of (i) select students (ii) select teachers (iii) select internal verifiers and (iv) select principals/administrators in the delivery of CVQ level 1 using the CBET approach?

2. (b.) What are the experiences of (i) select students (ii) select teachers (iii) select internal verifiers and (iv) select administrators in the assessment of CVQ level 1 using the CBET approach?

Quantitative Research Question

The following research question was employed to collect quantitative data in the study:

3. From the perspective of (i) select students (ii) select teachers and (iii) select internal verifiers, to what extent is the CBET approach employed for both delivery and assessment for the CVQ level 1?

Population

Creswell (2012) defined a population as a group that comprises persons of similar characteristics. At the country level, this study was conducted in six CARICOM states that have implemented the CVQ. At the institutional level the study included secondary schools from T&T, Barbados, Dominica, Grenada, TCI and Jamaica. At the group and individual levels, the focus was on school principals/administrators, HODs/internal verifiers (IVs), teachers and students pursuing the CVQ level 1. Table 2 summarised the countries, number of (i) teachers, (ii) students (iii) administrators, (iv) HODs/Internal verifiers who constituted the population for this study.

Table 2 shows that the population comprised 136 secondary schools offering the CVQ and 136 principals/administrators at the time the study was conducted. Accurate data representing the number of teachers, students and HODs/internal verifiers were not available at the time of the study. It is important to note that students are officially registered for the CVQ in the latter part of Year 2. In addition, teachers and those serving as internal verifiers and would have been initially recruited to teach existing TVET subjects and there was no official record of those recruited to teach CVQ. Barbados was the only country where CVQ Coordinators were officially appointed by the Ministry of Education, Science, Technology and Innovation at the time the study was conducted.

Table 2

Summary of Countries and Schools Offering the CVQ

Country	Barbados	Grenada	Dominica	Jamaica	T&T	TCI	Total
No. of Secondary Schools	21	5	3	41	62	4	136
No. of Teachers	-	-	-	-	-	-	-
No. of Students	210	105	48	620	1,992	-	-
No. of Principals/ Administrator	21	5	3	42	62	4	136
CVQ Coordinators/ HODs/IVs	21	-	3	-	-	-	-

Note: Sourced from Ministries of Education.

As shown in Table 3 from the six countries, 49 secondary schools, 90 teachers, 784 students, 49 principals/administrators and 49 CVQ Coordinators/HODs/IVs were targeted.

Table 3

Target Population of Study

Country	Barbados	Grenada	Dominica	Jamaica	T&T	TCI	Total
No. of Secondary Schools	11	5	3	11	15	4	49
No. of Teachers	9	9	9	9	45	9	90
No. of Students	176	80	48	176	240	64	784
No. of Admin. Personnel/ Principals	11	5	3	11	15	4	49
CVQ Coordinators/ HODs/IVs	11	5	3	11	15	4	49

Mixed Sampling Design

Sample size refers to the number of participants selected for the study whereas the sampling scheme refers to how the participants are selected (Collins, Onwuegbuzie & Jiao, 2006; Onwuegbuzie & Collins, 2007). Participants for the study were selected using a multi-level concurrent design using identical samples for both the quantitative and qualitative phases of the study, combining probability and purposive sampling techniques. Non-random sampling dominates the research literature for both qualitative and quantitative studies (Onwuegbuzie & Collins, 2007). A concurrent design using identical samples implies that exactly the same members participate in both the quantitative and qualitative phases of the investigation (Collins et al., 2006; Onwuegbuzie & Collins, 2007). This type of design was more feasible and less costly because the participants were geographically dispersed and conducting the field work for this study was expensive. Onwuegbuzie and Leech (2007) posited that a multi-level sampling design enables one to compare subgroups within different levels of the same study. When applied to this study, a multi-level sampling design facilitated comparison of information from the various subgroups of participants involved in the study. Multi-level sampling can occur when both probability and purposive sampling techniques are used on different levels of the study (e.g., student, class, school district) (Kemper et al., as cited in Onwuegbuzie & Collins, (2007). Since the objective of the study was to generalise the qualitative and quantitative findings to the population from which the sample was drawn, stratified random sampling was used for secondary schools in Barbados, Jamaica and T&T (Onwuegbuzie & Collins, 2007). A stratified sampling scheme is where the sampling frame is segmented into sections that are composed of groups that have relatively similar characteristics and a random sample is selected from each section (Collins et al., 2006). This method of random sampling will improve the representativeness of the sample and decrease sampling error. Stratification was done via:

1. educational districts or regions
2. type of school (government assisted, private, co ed,)
3. number of occupational areas offered.

Sampling Procedure

In selecting the sample size, the secondary school was considered as the unit.

Trinidad and Tobago. In T&T, a stratified random sample was selected from 62 secondary schools where students were pursuing the CVQ (Table 4). Schools were stratified based on educational district, type of school and number of schools offering more than six occupational areas.

Table 4 shows the number of schools in the seven educational districts in Trinidad and one educational division in Tobago, 15 of the 62 schools that offered CVQ were selected in the sample.

Table 4

The Number of Schools as Per the Eight Educational Districts in T&T

Education District	Caroni	North East	Port of Spain & Environs	South East	St. George East	St. Patrick	Tobago	Victoria	Total
No. of Schools	9	8	7	9	9	8	5	7	62
No. of Schools selected	2	2	2	2	2	2	1	2	15

Note: Sourced from the Ministry of Education, Trinidad and Tobago.

Jamaica. In Jamaica, a stratified random sample was selected from 41 secondary schools where students were pursuing the CVQ (Table 5). Schools were stratified based on educational district (region), type of school and number of schools offering more than six occupational areas.

Table 5 shows the number of schools in each educational region in Jamaica, the number of schools in each region, 11 of the 42 schools were included in the sample.

Table 5

The Number of Schools as Per the Six Regions in Jamaica

Region	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Total
No. of Schools	11	4	1	9	3	13	41
No. of Schools Selected	3	1	1	2	1	3	11

Note: Sourced from the Ministry of Education, Youth and Information, Jamaica.

Barbados. In Barbados, a stratified random sample was selected from 21 secondary schools where students were pursuing the CVQ level 1 (Table 6). Schools were stratified based on district, type of school and number of schools offering more than six occupational areas.

As shown in Table 6, 21 school offered CVQ in the eleven educational regions in Barbados, 11 were included in the sample; one from each region.

Table 6

The Number of Schools as Per the Eleven Regions in Barbados

Region	St. Peter	St. Andrew	Christ-Church	St. Lucy	St. Michael	St. James	St. Joseph	St. Phillip	St. John	St. Thomas	St. George	Total
No. of Schools	2	1	2	1	8	2	1	1	1	1	1	21
No. of schools selected	1	1	1	1	1	1	1	1	1	1	1	11

Note: Sourced from the Ministry of Education, Science, Technology and Innovation.

Purposeful sampling. Non-probability sampling was used for schools in Dominica, Grenada and TCI. Onwuegbuzie and Collins (2007) confirmed that many mixed methods studies utilise some form of purposeful sampling. According to Creswell (2012), purposeful sampling utilises a procedure where the participants in the study are intentionally selected. Purposeful sampling, which is one type of non-

probability sampling was therefore used for schools in Grenada, Dominica and TCI. With reference to this study, the number of schools implementing the CVQ in these countries was limited and the student population accessing the CVQ was low, hence all the schools implementing the CVQ in each of these countries were selected.

As shown in Table 7, four out of five schools were accessible in Grenada, two out of three in Dominica and three out of four in TCI.

Table 7

Number of Schools Offering CVQ and those that were Accessible in Grenada, Dominica and TCI

Country	Number of Schools	Number of Accessible Schools
Grenada	5	4
Dominica	3	2
TCI	4	3

Note: Sourced from the Ministry of Education, Human Resource Development and the Environment, Grenada; the Ministry of Education and Human Resource Development, Commonwealth of Dominica; and the Ministry of Education, Youth, Sports and Culture, Turks and Caicos Islands.

Sample

As listed in Table 8 the sample size for the study thus focused on 6 countries, 29 schools, 50 teachers, 389 students, 24 administrators and 24 CVQ Coordinators/HODs/IVs.

Table 8

Sample of Study by Country

Country	Barbados	Grenada	Dominica	Jamaica	T&T	TCI	Total
No. of Secondary Schools	6	4	2	6	8	3	29
No. of Teachers	10	6	4	9	17	4	50
No. of Students	49	39	20	126	128	26	389
No. of Admin. Personnel/ Principals	6	4	1	4	6	3	24

CVQ							
Coordinators/ HODs/IVs	6	0	2	4	9	3	24

Demographic data. Means and standard deviations were used to summarise interval scaled variables included in the demographic data such as age. Relative frequencies (percentages) were used to compute categorical variables, such as age group, form/class, education and teaching experience.

Demographic data – students. This section presents the demographic characteristics of student respondents including sex, age and form or class. Data for each of these characteristics are indicated in Table 9.

Table 9

Demographic Characteristics of Student

Country		Barbados		Dominica		Grenada		Jamaica		T&T		TCI		Totals	
Sample		n	%	n	%	n	%	n	%	n	%	n	%	n	%
No. of students		50		20		39		126		128		26		389	100
Sex	M	17	34.0	12	60	25	64.1	43	34.1	61	47.7	14	53.8	173	44.2
	F	33	66.0	8	40	14	35.9	83	65.9	66	52.3	12	46.2	216	55.8
Age	14	01	2.0	00	00	00	00	06	4.8	02	1.6	00	00	09	2.3
	15	23	46.0	04	20	24	61.5	37	29.4	33	25.8	02	7.7	123	31.6
	16	19	38.0	10	50	06	15.4	61	48.4	56	43.8	09	34.6	161	41.4
	>17	07	14.0	06	30	09	23.1	22	17.5	37	28.9	15	57.7	96	24.7
Form	3	00	00	00	00	00	00	06	4.8	00	00	00	00	6	1.5
	4	03	6.0	20	100	39	100	112	88.9	79	61.7	04	15.4	256	65.8
	5	41	82.0	00	00	00	00	02	1.6	47	36.7	22	84.6	112	28.8
	6	05	10.0	00	00	00	00	00	00	01	.8	00	00	6	1.5
	NR	1	2.0	00	00	00	00	06	4.8	01	.8	00	00	9	2.3

Sex. As presented in Table 9, 44.2% of the CVQ students in the study were males, whereas 55.8% were females. There were larger CVQ student male populations in Grenada and TCI, but Barbados, Jamaica and T&T were female dominated.

Age. As indicated in Table 9, 31.6% of the CVQ students were 15-year-olds, 41.4%, 16 and 24.7% were 17 year olds. It is notable that the highest percentage of students 17 year olds (57.7) were from the TCI, followed by T&T (28.9%).

Form/class. As depicted in Table 9, 65.8% of students in the study were in the fourth form, whereas 28.8% were in the fifth form. Five students from Barbados and one from T&T were in the sixth form. A minority (1.5%) was in the third form.

Demographic characteristics of teacher sample population

Demographic data -teachers. This section presents the demographic characteristics of teacher respondents including sex, age, teaching experience, qualification level, training in TVET and CBET and assessor certification. Data for each of these characteristics are indicated in Table 10.

Table 10

Demographic Characteristics of Teacher

Country		Barbados	Grenada	Dominica	Jamaica	T&T	TCI	Totals
No. of teachers		10	4	6	9	17	4	50
Sex	M	6	1	5	4	6	3	25
	F	4	3	1	5	11	1	25
Age	26-30	1	1	2	-	-	-	4
	31-35	6	-	1	1	1	1	10
	36-40	1	-	1	2	5	-	9
	41-45	2	1	-	1	2	1	7
	46-50	-	2	-	2	3	1	8
	>51	-	-	2	3	6	1	12
Teaching experience	<5	4	-	1	1	1	-	8
	6-10	4	2	1	3	3	-	13
	11-15	1	-	-	1	2	1	5
	16-20	1	-	2	3	2	-	8
	21-25	-	1	-	-	4	1	6
	26-30	-	-	-	-	2	1	3
	31-35	-	-	1	1	2	-	4
	36-40	-	-	1	-	1	-	2
	>41	-	-	-	-	-	1	1
Qualification level	Trained teacher	-	1	3	1	6	2	13

	Untrained teacher	3	1	1	-	3	-	8
	Trained graduate teacher	5	2	2	8	6	2	26
Formal TVET training	Yes	9	4	3	8	12	3	39
	No	1	-	3	1	4	1	10
Formal CBET training	Yes	8	4	6	8	14	1	41
	No	-	-	-	2	2	2	6
Certified assessor	Yes	7	3	3	6	15	4	38
	No	1	-	-	2	2	-	5

Sex. As indicated in Table 10, 50% of the CVQ teachers were males and 50% females. The largest number of female respondents was from T&T.

Age. Table 10 shows that the largest number of teachers (24%) were 51 year olds, while 16% were over 46 years. Eight percent of the teachers were in the youngest age category (26-30 years).

Teaching experience. As depicted in Table 10, 26% of the teachers had 6-10 years teaching experience, while 16% had less than five years' experience. The largest number of experienced teachers was from T&T.

Qualification level. As presented in Table 10, 52% were graduate teachers, while 26% were trained teachers. 16% were not teacher trained.

Formal TVET/CBET training. 78% of the teachers indicated that they were formally trained in TVET, while 82% were exposed to training in CBET.

Assessor certification. 76% of the teachers indicated that they were assessor certified.

Demographic data - internal verifiers. This section presents the demographic characteristics of internal verifier respondents including sex, age, teaching experience, training in TVET and CBET and internal verifier certification. Data for each of these characteristics are indicated in Table 11.

Table 11
Demographic Characteristics of Internal Verifiers

Country		Barbados	Dominica	Jamaica	T&T	TCI	Totals
No. of internal verifiers							24
Sex	M	2	0	1	5	2	10
	F	4	2*	3	4	1	14
Age	26-30	1	-	-	-	-	1
	31-35	1	-	1	-	1	3
	36-40	1	1	1	2	-	5
	41-45	-	-	-	1	2	3
	46-50	-	-	1	3	-	4
	>51	3		1	3	-	7
Teaching experience	<5	-	-	1	1	-	2
	6-10	1	-	2	-	-	3
	11-15	-	-	1	-	-	1
	16-20	1	1	-	5	2	9
	21-25	1	-	-	3	1	5
	26-30	1	-	-	-	-	1
	31-35	2	-	-	1	-	3
	36-40	-	-	-	-	-	0
	>41	-	-	-	-	-	0
Qualification level	Trained teacher	-	-	-	6	1	7
	Untrained teacher	-	-	-	-	-	-
	Trained graduate teacher	6	2	4	3	2	17
Formal TVET training	Yes	6	1	4	6	3	20
	No	0	1	-	3	-	04
Formal CBET training	Yes	5	2	3	6	1	17
	No	-	-	1	2	2	5
Certified internal verifier	Yes	5	1	4	3	2	15
	No	1	1	-	5	1	8

Note: n=24. *Age not disclosed for one of the females for Dominica.

Sex. As indicated in Table 11, 58% of the IVs were females and 42% males. The largest male population was from T&T.

Age. Table 11 shows that the largest percentage of IVs (29%) were over 51 years, while 21% were 36-40 years. Four percent of the IVs were in the youngest age category (26-30 years).

Teaching experience. As depicted in Table 11, 37.5% of the teachers had 16-20 years teaching experience, while eight percent had less than five years' experience.

Qualification level. As presented in Table 11, 71% of the IVs were graduate teachers, while 29% were trained teachers.

Formal TVET/CBET training. 83% of the IVs indicated that they were formally trained in TVET, while 71% were exposed to training in CBET.

Certification. Results indicated that 65% of the IVs were certified.

Instrumentation

Qualitative Phase

Data for this phase of the study were generated through the use of focus groups, interviews and questionnaires. Focus group question guides were formulated so that participants' perceptions, values, attitudes to the CVQ could be explored. Interviews were conducted with principals/administrators and HODs/IVs.

Student focus group question guide. The student focus group question guide (Appendix A) comprised six probes aimed at eliciting perceptions about the values and attitudes towards the CVQ. Questions addressed perceptions about the CVQ as a career option, critical factors that influenced their decision to pursue the CVQ, the value of acquiring hands on skills, advantages and disadvantages of pursuing the CVQ and experiences with assessment for the CVQ. This instrument collected data for the following research questions:

1. What are select stakeholders' perceptions about the CVQ?
 - a. How do select students perceive pursuing the CVQ level 1 in secondary schools?
 - b. From the perspective of select students, what are the perceived influences of students' decision to pursue the CVQ level 1?

2. (a.) What are the experiences of select students in the delivery of CVQ level 1 using the CBET approach?
2. (b) What are the experiences of select students in the assessment of CVQ level 1 using the CBET approach?

Teacher focus group question guide. The teacher focus group question (Appendix B) guide comprised fourteen probes aimed at eliciting perceptions about the values and attitudes towards the CVQ. Questions addressed their perceptions about the CVQ as a career option, the degree of influence by key stakeholders on students' decision to pursue the CVQ, value of acquiring hands on skills, guidance and support provided to allow for the effective delivery and assessment of the CVQ and experiences encountered when delivering and assessing for the CVQ. This instrument collected data for the following research questions:

1. What are select stakeholders' perceptions about the CVQ?
 - c. How do select teachers perceive students pursuing the CVQ level 1 in secondary schools?
 - d. From the perspective of select teachers, what are the perceived influences of students' decision to pursue the CVQ level 1?
 - e. How do select teachers' perceptions about the CVQ influence, if at all, the delivery of CVQ level 1?
 - f. How do select teachers' perceptions about the CVQ influence, if at all, the assessment for the CVQ level 1.
2. (a.) What are the experiences of select teachers in the delivery of CVQ level 1 using the CBET approach?
2. (b) What are the experiences of select teachers in the assessment of CVQ level 1 using the CBET approach?

Interviews. Interview questions were adapted from a study conducted by UNICEF in 2011 on the Quality of Teaching and Learning in Special Education Setting in Barbados. The questions were piloted, and revisions made where necessary to ensure that they can be understood and answered by participants selected for the study.

Administrator interview protocol. The interview protocol (Appendix C) comprised 27 open-ended questions, posed under overarching questions pertaining to various aspects of delivery and assessment for the CVQ. There were 11 sub questions regarding administrators' perceptions about the delivery and assessment of the CVQ curriculum, ten questions regarding experiences in the delivery of the CVQ curriculum via the CBET approach, and five questions on the experiences in the assessment of the CVQ using the CBET approach. All principals/administrators received the same questions in the same order, however, the interviews varied in length and discussion. The principal/administrator interview protocol collected data for the following research questions:

1. What are select stakeholders' perceptions about the CVQ?
 - (b.) How do select administrators perceive students pursuing the CVQ level 1 in secondary schools?
 - (d.) How do select administrators' perceptions about the CVQ influence, if at all, the delivery of CVQ level 1?
 - (e.) How do select administrators' perceptions about the CVQ influence, if at all, the assessment for the CVQ level 1.
2. (a.) What are the experiences select administrators in the delivery of CVQ level 1 using the CBET approach?
 - (b.) What are the experiences of select administrators in the assessment of CVQ level 1 using the CBET approach?

Internal verifier interview protocol. This interview protocol (Appendix D) comprised 19 open-ended questions based on the specific roles and functions of the internal verifier such as the level of guidance and support extended to teachers/assessors, treating with newly trained assessors, adherence to the CBET philosophy and treatment of external verification reports. All internal verifiers received the same questions in the same order, however, the interviews varied in length and discussion. The internal verifier (IV) interview protocol collected data for the following research questions:

1. What are select stakeholders' perceptions about the CVQ?
2. (a) What are the experiences of select internal verifiers in the delivery of CVQ level 1 using the CBET approach?

2. (b) What are the experiences of select internal verifiers in the assessment of CVQ level 1 using the CBET approach?

Quantitative Phase

Questionnaires were used to gather pertinent data from students, teachers and IVs/HODs.

Quantitative instruments. Questionnaires were adapted from studies conducted by UNICEF in 2011 on the Quality of Teaching and Learning in Special Education Setting in Barbados and A Pre-Survey of Key Stakeholders' Attitudes towards TVET in the Gaza Strip, conducted by Assahel Consultants in 2013. These questionnaires were used to gather pertinent data from HODs/internal verifiers, teachers and students. To assess the extent to which the CBET approach was used for the delivery and assessment of the CVQ, the questionnaires were subdivided into resources for curriculum delivery and assessment, curriculum delivery and assessment. To assess whether the actual implementation of strategies was consistent with the CBET approach, responses were gathered using a 5-point Likert scale. The Likert scale rated responses indicating the perceived degree of strength of implementation of the strategies as indicated by 'strongly agree', 'agree', 'uncertain', 'disagree', 'strongly disagree'. Scoring weights of 5, 4, 3, 2 and 1 were used for 'strongly agree', 'agree', 'uncertain', 'disagree', 'strongly disagree' respectively for statements in support of practices of implementation for the CVQ.

Student questionnaire. The student questionnaire (Appendix E) comprised 35 items and sought data from areas including:

1. Demographics (5)
2. Information about CVQ delivery and assessment such as:
 - a. Resources (7)
 - b. Curriculum Delivery (9)
 - c. Assessment (14)

Teacher questionnaire. The teacher questionnaire (Appendix F) comprised 76 items and sought data from areas including:

1. Demographics (14)
2. Teachers and their students (7)

3. Resources (5)
4. Teacher's Resources (12)
5. Teacher's Capacity (6)
6. Curriculum Delivery (15)
7. Assessment (17)

Internal verifier/head of department questionnaire. The internal verifier/head of department questionnaire (Appendix G) comprised 24 items and sought data from areas including:

1. Demographics (14)
2. Resources (4)
3. Internal verifier practice (6)

Reliability of questionnaires. Cronbach's alpha can be used as a measure of reliability as well as internal consistency (Creswell, 2012; Leech, Onwuegbuzie & O'Connor, 2011). Reliability of the questionnaires were established via a pilot test at a secondary school that was not included in the sample. Creswell (2012) identified coefficients of .93 as high and .6 as acceptable levels for internal consistency. Questionnaires were distributed to twenty students at the school and a reliability analysis was conducted on the items in the questionnaire. Inter-item correlations were computed using SPSS Version 23. Items that had a low correlation were removed from the questionnaire to make it more reliable. Cronbach's alpha showed the questionnaire to reach an acceptable level of $\alpha .727$ (Appendix H).

Data Collection Procedure

Qualitative Phase

Staying true to the pragmatic paradigm, both qualitative and quantitative data were collected simultaneously. The Director, Faculty of Humanities and Education School of Education, The University of the West Indies, St. Augustine Campus requested permission on the researcher's behalf to conduct the research (Appendix I). For the countries Jamaica and TCI, requests for approval were sought from the various Ministries of Education via Permanent Secretaries. However, in Dominica, Barbados and Grenada requests for approval were sought from the Chief Education Officer. In Trinidad, initial approval was requested through the Chair of the Subcommittee for Graduate Studies and Research of the Faculty of Humanities and Education, School

of Education. The request was forwarded to the Educational Planning Division of the Ministry of Education. Letters were issued to School Supervisors III in the various educational districts indicating that permission was granted to conduct research in the specific schools in the district. Although permission was granted by the Ministry of Education, T&T to conduct the research, the researcher was required to seek permission for the Tobago school from the Administrator, Division of Education Innovation and Energy of the Tobago House of Assembly.

Subsequently, contact was made by the researcher with the various countries to follow up and to organise the logistics for the field visits. This included contacting the various ministries, providing a list of schools and the date and times of the visits. Once there was agreement, contact was made with the principals/administrators of the school. For the countries Barbados, Dominica, Grenada, Jamaica and TCI, both the qualitative and quantitative data were collected on the same day or over a period of one to five days. This may account for the low rate of responses in some of those countries. The pattern was the same for T&T, however, in some instances, the questionnaires were dropped off at the school and the researcher was given a time and date on which to collect the completed instruments.

Qualitative data collection procedure.

Focus group sessions. A focus group is an informal discussion among a group of selected individuals about a particular topic (Beck et al. as cited in Wilkinson 1998; Bender & Ewbank 1994). A focus group interview can be used to obtain shared understanding from a group of individuals or to elicit opinions from specific people (Creswell, 2012).

Focus group sessions were conducted to examine students' and teachers' perceptions about the CVQ to determine its impact on the delivery and assessment of the CVQ level 1 among secondary school students in the six CARICOM states. According to Liamputtong (2011) Sociological abstracts over the past decade indicate that more than 60% of research employing focus groups was done in combination with other research methods. The use of focus groups is one way of identifying needs and interests. It also gives the opportunity for gaining understanding of why certain opinions are held and why certain practices are done.

Objectives of the focus group sessions. The primary use of the focus group session was to obtain information to explore students' and teachers' perceptions about the CVQ level 1.

The qualitative data obtained were then corroborated with the results of the survey conducted to determine if the perceptions of the CVQ level 1 impacted instructor delivery and assessment for the CVQ level 1 among secondary school students in the six CARICOM states. The qualitative data obtained from the focus groups sessions were also corroborated with the results of the surveys administered to stakeholders implementing the CVQ level 1 to determine if the approaches employed in the delivery and assessment of the CVQ level 1 were in accordance with CBET.

Conduct of focus group sessions. Focus group sessions were conducted among students pursuing the CVQ level 1 and separate sessions were conducted for CVQ teachers/assessors. These sessions were conducted in each of the schools selected in the sample. Visits to schools were scheduled to coincide with the times the students were timetabled for the CVQ. In the majority of schools, the minimum number of sessions allocated for the CVQ in any one day was three, 40-minute periods, this allowed ample time to conduct the focus group sessions. The sample size of a qualitative data collection procedure such as a focus group should be such that it allows for data saturation. Collins and Onwuegbuzie (2007) endorsed a focus group sample size of a minimum of 6 to 12 participants as recommended by several researchers. Students of teachers participating in the focus group sessions were selected to participate in the student focus group sessions. The groups of students comprised not more than 12 participants.

Teachers/assessors and internal verifiers of all the CVQ classes in any one school comprised different groups of not more than 12 participants per group.

The groups were informed of the reasons and the procedure for conducting the focus group session. The sessions were audio-recorded and identities remained anonymous. Participants were requested to speak one at a time, clearly and slowly to facilitate tape recording. The duration of each focus group sessions was approximately one hour and was facilitated by a moderator and an assistant moderator. Wellington (2000) recommended the use of two interviewers jointly interviewing a group of people since one person can observe reactions such as body language and tone of

voice that the other may not. This can serve several advantages and help to improve the quality of the data. The moderators, who were from the same country were trained according to the guide “Conducting Effective Focus Group Discussions” (Family Health International, 1994). The assistant moderator recorded the discussion with a tape recorder and took notes. A seating chart was drawn up before the beginning of the discussion and non-verbal communication was also monitored. The assistant moderator also kept time for the moderator and dealt with interruptions so that the moderator was not distracted. Tokens were provided at the end of the session.

Participants were told that the interaction would be non-judgmental and that any queries will be addressed at the end of the session. Participants were also told that all responses/answers would be useful and that the information gleaned would make a valuable contribution to the study.

Table 12 shows that the number of focus group sessions conducted with students was 23, while 19 sessions were conducted with teachers.

Table 12

Focus Group Sessions Conducted in CARICOM States

Country	Barbados	Dominica	Grenada	Jamaica	T&T	TCI	Total
Student	3	2	4	6	5	3	23
Teacher	4	2	4	3	4	2	19

Individual interviews. According to Creswell (2012), qualitative interviews occur where the researcher poses open-ended questions to one or more participants and record the responses, which are subsequently transcribed and analysed. Creswell contends that open-ended questions are posed so that participants responses are not influenced in any way. Wellington (2002) identified the purpose of a research interview as probing “the respondent’s views, perspectives or life-history” (p. 72). One -on-one interviews were conducted with principals/administrators at each school sampled to examine administrators’ perceptions about the CVQ and to determine its impact on the delivery and assessment of the CVQ level 1 among secondary school students in the six CARICOM states identified. One of the major advantages of these interviews was the fact that the interviewer/researcher was very knowledgeable about the

implementation of the CVQ. However, Wellington (2000) opined that this does not “imply a balanced, two-way exchange of views between the interviewers and interviewee” (p. 72).

Although the interviews were time consuming, they were used because the principals/administrators were able to share information that cannot be readily observed, and specific types of information could have been elicited.

Conduct of interviews. Principal/administrator interviews were conducted in the principal’s office. Permission was sought to tape-record the interview; however, responses were also written verbatim. Essential information about the research study such as a short bio of the researcher and interest in the field was provided as well as reasons for conducting the study, why they were selected and the length of the interview. The interviewees were also assured that their responses and identities will remain confidential.

To initiate the interview, a rapport was established with the interviewee. Probing was used where necessary to seek clarification or for further elaboration. (Wellington, 2000)

Table 13 shows that the number of interviews conducted with internal verifiers was 12, whereas the number conducted with principals/administrators was 24.

Table 13

Interviews Conducted in CARICOM States

Country	Barbados	Dominica	Grenada	Jamaica	T&T	TCI	Total
Principals/ Administrators	6	1	4	4	6	3	24
Internal Verifier	4	2	-	2	2	2	12

Quantitative Phase

Administration of questionnaires. The data collection procedure for the quantitative aspect of the study involved the completion of student, teacher and internal verifier questionnaires. The moderator for the focus group session, also facilitated the distribution and collection of the completed questionnaires. All questionnaires included a cover note to the participants, with information about the

research study and the address of the researcher, instructions for completing, as well as information indicating that the exercise was voluntary and that their anonymity will be maintained. Students' questionnaires were administered in their classrooms during their scheduled CVQ class periods. Questionnaires were administered to teachers and internal verifiers in comfortable spaces available at the time of the visit, such as laboratories, classrooms or staff rooms. Questionnaires were administered on the same day of the field visits scheduled for each school. However, in some instances, questionnaires were dropped off at the school and the researcher was given a time and date on which to collect the completed instruments.

Data Analysis

A comprehensive definition of mixed data analysis based on thirteen criteria was proffered by Onwuegbuzie and Combs (2010), as cited by Onwuegbuzie & Combs (2011). The research is expected to make a decision utilising these criteria before during and/or after the conduct of mixed analyses. Onwuegbuzie and Combs (2011) extracted five of the most common ones to be satisfied as follows:

- The rationale for conducting the mixed analysis
- The number of data types to be analysed
- Time sequence of the mixed analysis
- Priority of the analytical component and,
- Number of analytical phases

When applied to this study, the rationale for this mixed analysis approach was triangulation and complementarity. The use of both qualitative and quantitative analytical techniques was employed, qualitative analyses being the dominant analytical component. Concurrent analyses of the qualitative and quantitative data (i.e., in no chronological order) was employed and the analysis strands only interacted during the data interpretation stage. In addition, the analyses encompassed all of the steps in the mixed analysis process.

Mixed Data Analysis

Onwuegbuzie and Combs (2011) defined mixed analysis as “the term used for analysing data in mixed research” (p.2).

Onwuegbuzie and Teddlie (2003) as cited in Onwuegbuzie, Slate, Leech and Collins (2007), identified several steps in the mixed analysis process. These steps are as follows:

Data reduction – this involves reducing the dimensionality of the quantitative data via descriptive statistics and exploratory factor analysis and qualitative data via interim analysis and thematic analysis.

Data display – Visual presentation of quantitative and qualitative data via the use of tables graphs and charts etc.

Data correlation – qualitative data is correlated with quantitative data or vice versa.

Data consolidation – quantitative and qualitative data are combined to create new or consolidated codes, variables or data sets.

Data comparison – comparing the findings from the qualitative and quantitative data sources or analyses.

Data transformation – data is qualitisd or quantitised.

Data integration – quantitative or qualitative findings are integrated either as a coherent whole or two separate sets (i.e., quantitative or qualitative) of coherent wholes.

A Multi-type Mixed Analysis was taken all of the steps in the mixed analysis process were utilised. Onwuegbuzie et al. (2007) indicated that the fundamental principle of mixed analysis is that quantitative and qualitative analytical techniques are used either concurrently or separately after data collection from which interpretations are made either in a parallel, integrated or iterative way. These researchers also posited that concurrent use of quantitative and qualitative analytical techniques results stemming from one do not inform the other, however, findings obtained from both analyses can be interpreted separately or combined leading to meta-inferences. Both data types being interpreted at the data interpretation stage. As such, for this research study, multi-type data were collected and therefore a multi-analysis as posited by Onwuegbuzie et al. (2007) was done, which involved concurrent analysis of the

quantitative and qualitative data. The approach taken was also in keeping with the rationale or the main purpose of conducting the research, which was triangulation.

Qualitative Phase

As posited by Leech and Onwuegbuzie (2007), to insert rigor and trustworthiness of research findings, attempts should be made to triangulate data by using more than one type of quality data analysis tools (p. 575). As such, the following tools were utilised:

1. Constant Comparison Analysis
2. Keywords-in-context
3. Classical Content Analysis.

These data analysis tools involved data reduction, data display and conclusion drawing verification (Wellington, 2000).

Data reduction. Data reduction involves the selection and condensation of data. According to Wellington (2000), the data are “collated, summarised, coded and sorted out into themes, clusters and categories” (p. 134).

Data display. The data are organised, assembled and presented using pictures or diagrams. This allows for the researcher to conceptualise the data which can then be interpreted and conclusions can be drawn (Wellington, 2000).

Conclusion drawing. This process involves interpretation of the data and ascribing meaning. The researcher searches for themes, patterns and similarities and comparing and contrasting the data (Wellington, 2000).

Since the objective was to answer overarching questions of the research, Constant Comparison Analysis was used. However, there was value in using actual words used by the participants so Keywords-in-context as well as Classical Content Analysis were also utilised (Leech & Onwuegbuzie 2007). All responses were transcribed into text, analysed and coded to identify common themes. The qualitative findings were used to support the results of the quantitative data analyses.

Constant comparison analysis. According to Leech and Onwuegbuzie (2008), this involves “systematically reducing data to codes then developing themes from the codes” (p. 601). This tool can be used with talk after transcription. With regard to this study, it was used to analyse the transcribed data from the focus group

sessions and individual interviews. The transcribed data were firstly thoroughly read through, bearing in mind pertinent research question characteristics. The data was then placed in chunks or phrases and assigned specific codes. These chunks of data were then compared with previous codes and similar chunks and themes developed based on each grouping. The data were then tied together to answer the research question.

Keywords-in-context (KWIC). “The goal of KWIC is to reveal how words are used in context with other words” (Leech & Onwuegbuzie 2008, p. 601). This involves utilising surrounding words to understand the underlying meaning of the keyword. This tool can also be used with talk after transcription, in this instance the transcribed data from focus group sessions and individual interviews. The words that appeared before and after frequently used keywords as articulated by the respondents were compared to assist in understanding the meaning of the words (Leech & Onwuegbuzie, 2007).

Classical content analysis. This tool is used to determine the presence of certain words or concepts within texts or sets of texts. In this research study, the texts refer to transcriptions emanating from the focus group sessions and individual interviews. The presence, meanings and relationships of the texts (words and concepts) were quantified and analysed, using the specificity of the research questions as a guide. Inferences were then made about the messages within the text. (Leech & Onwuegbuzie, 2008).

Quantitative Phase

The quantitative phase of this mixed methods research study was designed so that the relationship between perceptions and actions could be analysed (Creswell, 2007).

Descriptive and inferential statistics were used to analyse data garnered from questionnaires using the software programme Statistical Package for Social Sciences Version 23 (SPSS 23.0). Differences were reported as significant at $p < 0.05$. Percentages, means and standard deviations were used to compute interval scaled variables included in the demographic data such as age variables. Relative frequencies were used to compute categorical variables, such as age group, education and teaching

experience. The 95% Confidence interval was used to describe the main outcome variables.

Data reduction techniques were employed since Grand mean variables were created before conducting one-way Analysis of Variance (ANOVA). Means and grand mean scores as well as standard deviations were generated. Additional tests were done to establish which means were actually different. With regard to this study, Tukey Post- Hoc tests were conducted to determine differences among the various groups where the main effects were significant. Post-hoc tests are used to reveal specific differences between three or more groups means when an ANOVA F test is significant, since the F test will only indicate that a difference exists between the groups (Allen, 2017).

To analyse the Likert scale data generated from the questionnaires, a scale was developed using the formula (Highest point in the Likert scale – Lowest point in the Likert scale)/the number of levels used (Nguli, 2017). For the Five-point Likert scale, a factor of 0.8 was used to yield the scoring rubric presented in Table 14.

Table 14

Summary of Scoring Rubric

Very low	Low	Neutral	Moderate	High
1 – 1.80	1.81 – 2.60	2.61 – 3.40	3.41 – 4.20	4.21 – 5.00

To examine country differences regarding delivery and assessment strategies among students, Chi-Square tests were conducted. The Chi-square test is a nonparametric test of statistical significance of a relation between two nominal or ordinal variables. This test only reports on whether groups in a sample are significantly different in some measured attribute or behaviour (Salkind, 2010).

However, given the small sample size of 50 for teachers, Fisher's exact test was used to examine country differences regarding delivery/instructional and assessment strategies. The Fisher's exact test is used when more than 20% of the cells have expected frequencies of less than five.

Data Integration

Teachers' perceptions are very important variables that influence the effectiveness of the implementation of a curriculum since they are the implementers (Wesselink, 2010). The effective delivery and assessment for the CVQ depends on teachers' perceptions as well as administrators' perceptions. The views of administrators have influence over school-related decision-making.

Quantitative or qualitative findings are integrated either as a coherent whole or two separate sets (i.e., quantitative or qualitative) of coherent wholes.

A Multi-type Mixed Analysis was taken as all of the steps in the mixed analysis process were utilised. Onwuegbuzie et al. (2007) indicated that the fundamental principle of mixed analysis is that quantitative and qualitative analytical techniques are used either concurrently or separately after data collection from which interpretations are made either in a parallel, integrated or iterative way. These researchers also posited that concurrent use of quantitative and qualitative analytical techniques results stemming from one do not inform the other, however, findings obtained from both analyses can be interpreted separately or combined leading to meta-inferences. Both data types being interpreted at the data interpretation stage. As such, for this research study, multi-type data were collected and therefore a multi-analysis as posited by Onwuegbuzie et al. (2007) was done, which involved concurrent analysis of the quantitative and qualitative data. The qualitative and quantitative data were mutually corroborated where feasible (Bryman, 2006). Strategies for data integration included within and cross case analysis.

For this study, multi-type data were collected using different data collection procedures and groups of respondents in secondary schools within the six CARICOM states. The qualitative and quantitative findings from each group of respondents were merged to allow for concurrent analysis, triangulation and complementarity. Qualitative data obtained from students, teachers, internal verifiers and principals/administrators were corroborated with the results of the surveys administered to students, teachers and internal verifiers to determine if the approaches employed in the delivery and assessment of the CVQ were in accordance with CBET.

Limitations

Threats to Internal Credibility

According to Onwuegbuzie and Leech (2007), researcher bias can occur if a researcher has previous assumptions that he or she is unable to keep separate. Given that the approach/paradigm of the study is steeped in constructivism, and the researcher took a more hands on approach to collect the data, this may have occurred unknowingly since in conducting the interviews, I may have at times posed leading questions or used suggestive words or phrases thereby contaminating the data collection technique. However, the use of protocols for the focus group sessions and individual interviews assisted in minimising this threat.

Threats to Validity

Internal validity relates to the accuracy of results, i.e., it measures what it is intended to measure. According to Onwuegbuzie (2003), threats to internal validity can occur during several stages of a research study inclusive of research design, data collection, data analysis and data interpretation.

Threats to internal validity. Price and Murnan (2004) purport that an instrument is only valid for the population for which it was developed. However, if the sample is similar to the population for which it was intended then the threat to validity will be reduced. In developing the questionnaires for this study, reference was made to an instrument developed and implemented for a similar population for a research study conducted in 2013 in the Gaza Strip titled “Enhancing Youth Employability in the Gaza Strip.” The study was conducted among TVET schools and the sample included 14 to 15 year old male and female students pursuing TVET subjects, their teachers and school principals.

Threats to external validity. Onwuegbuzie and Johnson (2006) posit that all samples, be it random or non-random are subject to sampling error and that population and ecological validity are threats to external validity in virtually all educational studies.

Population validity refers to the extent to which the findings from the samples targeted in the study can be generalised to an entire population or varying subpopulations within the larger target population (Onwuegbuzie & Johnson, 2006). These researchers see population validity as a threat in almost all educational research

studies because members of the target population are rarely available for selection as well as random samples are difficult to obtain because of practical considerations such as time, money, resources and logistics.

In this research study, the accessible population was targeted, which may not be representative of the target group. Even in instances where a random sample was taken, as in the three larger territories of the region, representativeness of the accessible or target population was not guaranteed.

Onwuegbuzie and Johnson (2006) define ecological validity as the extent to which findings from a study can be generalised across settings, conditions, variables and contexts. When applied to this research study, one can determine if findings can be generalised from one secondary school to another, one school district to another and one territory to another. If so, then one can conclude that the study possesses ecological validity.

Ecological validity therefore represents the extent to which findings from a study are independent of the setting or location in which the investigation took place (Onwuegbuzie and Johnson, 2006). Ecological validity was therefore a threat in this research study given the geographical spread of the schools and the fact that different types of schools were targeted in different districts, among participants of varying ethnicities, socioeconomic status and academic achievement.

Increasing Legitimation

Triangulation was used to increase legitimation of the study. Creswell (2012) defines triangulation as the process of corroborating evidence from different subjects. Research data utilised for this study were corroborated between principal/administrator, teacher, student and internal verifier. The study also utilised methodological triangulation where several qualitative and quantitative methodologies were used. In addition, investigator triangulation was employed since an Assistant Researcher recorded responses verbatim and these responses were cross checked with that of the researcher during the transcription of the data.

Hussein (2009) highlighted the many benefits of triangulation as a result of mixing both qualitative and quantitative research methods in a study, inclusive of enhancing credibility, improving consistency and generalisability. Onwuegbuzie and Leech (2007) referred to the collection of “rich and thick data” which connotes

detailed and complete data as one way of providing credibility of findings. For this research study, interviews and focus group sessions were recorded and transcribed verbatim, there was no selection of specific responses and this therefore resulted in “rich and thick data.”

Ethical Considerations

Wellington (2000) has emphasised the importance of ethics in education research and referred to ethics as “moral principles, guiding conduct, which are held by a group or even a profession” (p.54). The British Educational Research Association (BERA) has published a set of Ethical Guidelines on research (BERA, 2018) and recommended that researchers undertake wide consultation to identify relevant ethical issues. BERA (2018) described ethical decision-making as an “actively deliberative, ongoing and iterative process of assessing and reassessing the situation and issues as they arise (p. 2).

In accordance with the guidelines for conducting research at The University of the West Indies, permission was sought from the Ethics Committee of for the approval of the proposal for all phases of the study. Permission was also sought from the Ministries of Education of all participating countries. Approval from the various Ministries was communicated to the principals/administrators of the participating schools before the field work was conducted. Principals/administrators were briefed about the study before meeting with the HODs/IVs, teachers and students.

BERA (2018) has highlighted the need to treat individuals “fairly, sensitively and with dignity in recognition of their rights and of any differences arising from age, gender, sexuality, ethnicity, class, nationality, cultural identity, partnership status, faith, political belief or any other significant characteristic” (p. 6). The researcher shared the purpose and procedures of the study with all participants who were also informed that they have a right to the outcomes of the research (BERA 2018). Student participants were required to obtain consent from parents and guardians via signed consent forms (Appendix J). In instances where consent forms were not returned, or where the logistical issues posed problems with obtaining the signed consent forms, the administrators at the schools acted as gatekeepers on behalf of the students (Wellington, 2000). Adult respondents were informed that participation was voluntary and were required to agree to participate. All respondents were informed that they

can withdraw their consent at any time without providing an explanation, and that their identity as well as their responses will be kept confidential (BERA 2018).

The report writing was bias free with reference to age, ethnicity, sexual orientation, race or gender. Anonymity of the data analysis was also maintained. The account detailed was such that the reader can judge the ethical quality of the research study (Terrell, 2012). One of the caveats included in the approval from the ministries of education was to make the results of the research available to policy makers within the said ministries as well as educational institutions and professionals. All resulting data including audio recordings will be stored in a secure location for a period of ten years after which they will be destroyed.

CHAPTER 4 - RESULTS

The purpose of this mixed methods study was to investigate stakeholders' perceptions about the CVQ to determine its impact on the delivery and assessment for the CVQ level 1 in secondary schools in six CARICOM states.

This chapter presents the results of the qualitative, quantitative and mixed data analyses. Given that the study is qualitative dominant, the qualitative data is presented in the first instance based on responses to the qualitative research questions. The results of the analyses, depended on the use of constant comparison analysis, keywords-in-context and Classical Content Analysis, based on the themes that emerged.

The Statistical Package for Social Sciences Version 23 (SPSS 23.0) was used to analyse the quantitative data. The analysis employed data gathered from questionnaires completed by students, teachers and internal verifiers. Descriptive statistics is used to present the demographic data of respondents to the questionnaires.

The two data sets (qualitative and quantitative) were then corroborated where feasible in response to the mixed question posed as to whether teachers' and administrators' perceptions influenced the delivery and assessment of the level 1 CVQ and whether the challenges inherent in the delivery and assessment for the CVQ were similar among the six CARICOM states of the study.

Research Questions

Qualitative research questions. The following qualitative research questions were addressed in the study:

1. What are select stakeholders' perceptions about the CVQ?
 - (a.) How do select students perceive pursuing the CVQ level 1 in secondary schools?
 - (b.) How do (i) select teachers (ii) select administrators perceive students pursuing the CVQ level 1 in secondary schools?
 - (c.) From the perspective of (i) select students (ii) select teachers, what are the perceived influences of students' decision to pursue the CVQ level 1?

- (d.) How do (i) select teachers' and (ii) select administrators' perceptions about the CVQ influence, if at all, the delivery of CVQ level 1?
 - (e.) How do (i) select teachers' and (ii) select administrators' perceptions about the CVQ influence, if at all, the assessment for the CVQ level 1.
2. (a) What are the experiences of (i) select students (ii) select teachers (iii) select internal verifiers and (iv) select administrators in the delivery of CVQ level 1 using the CBET approach?
 - (b) What are the experiences of (i) select students (ii) select teachers (iii) select internal verifiers and (iv) select administrators in the assessment of CVQ level 1 using the CBET approach?

Quantitative research question. The following research question was employed to collect quantitative data in the study:

3. From the perspective of (i) select students (ii) select teachers and (iii) select internal verifiers, to what extent is the CBET approach employed for both delivery and assessment for the CVQ level 1?

Qualitative Components

This component of the study was guided by 3 qualitative research questions and sub-research questions.

Research Question 1

1. What are select stakeholders' perceptions about the CVQ?
 - (a.) How do select students perceive pursuing the CVQ level 1 in secondary schools?
 - (b.) How do (i) select teachers (ii) select administrators perceive students pursuing the CVQ level 1 in secondary schools?
 - (c.) From the perspective of (i) select students (ii) select teachers, what influenced students' decision to pursue the CVQ level 1?
 - (d.) How do (i) select teachers' and (ii) select administrators' perceptions about the CVQ influence, if at all, the delivery of the CVQ level 1?
 - (e.) How do (i) select teachers' and (ii) select administrators' perceptions about the CVQ influence, if at all, the assessment for the CVQ level 1.

The data for all aspects of this research question were generated through focus group sessions and individual interviews.

Focus group sessions. As can be gleaned from Table 15, a total of 23 focus group sessions were conducted among students pursuing the CVQ and 19 teachers from all countries in the study.

Table 15

Number of Focus Group Sessions Conducted for Students and Teachers in Six CARICOM States

Country	Barbados	Dominica	Grenada	Jamaica	T&T	TCI	Total
Student	3	2	4	6	5	3	23
Teacher	4	2	4	3	4	2	19

Individual interviews. As shown in Table 16 a total of 24 interviews were conducted among principals/administrators and 12 among internal verifiers from countries in the study.

Table 16

Number of Interviews Conducted with Principals and Internal Verifiers in Six CARICOM States

Country	Barbados	Dominica	Grenada	Jamaica	T&T	TCI	Total
Principal	6	1	4	4	6	3	24
Internal Verifier	2	1	-	4	3	2	12

In answering the first overarching research question, “What are select stakeholders’ perceptions about the CVQ?”, Constant Comparison Analysis was used. However, there was value in using actual words of participants so Keywords-in-context as well as Classical Content Analysis were also utilised. All responses were transcribed into text, analysed and coded to identify common themes.

Constant comparison analysis. This methodology was used to analyse the transcribed data from the focus group sessions and individual interviews. The transcribed data were thoroughly read, bearing in mind pertinent research question

characteristics. The data were placed in chunks or phrases, assigned specific codes and then brought together to answer the research questions and sub-questions.

Key words in context. The words that appeared before and after frequently used keywords by the respondents were compared to assist in understanding the meaning.

Classical content analysis. The presence, meanings and relationships of the texts (words and concepts) were quantified by counting and analysed, using the specificity of the research questions as a guide. Inferences were then made about the messages within the text.

Overarching research question 1. What are select stakeholders' perceptions about the CVQ?

Sub-research question 1 (a.).

How do select students perceive pursuing the CVQ level 1 in secondary schools?

Data for Question 1 (a.) emanated from 23 focus group sessions with students.

A summary of the thematic analysis for students is presented in Table 17.

Table 17

Summary of Students' Perceptions of their Pursuit of the CVQ Level 1 by Theme and Country

Country	Career option	Acquisition of skills	Increased marketability	Backup	Certification/Qualification	Enhanced mobility / Portability	Entrepreneurship	Hobby/DIY	Other themes
Barbados	√	√	√	√	√	√	√	√	Preparation for further education
Dominica	×	√	×	×	√	×	√	√	Relief from schoolwork
Grenada	√	√	√	√	√	√	√	√	Increase in skills standards in society
Jamaica	√	√	√	√	√	√	√	√	Stress relief
T&T	√	√	√	√	√	√	√	√	For students not academically inclined
TCI	√	√	√	×	√	√	×	√	Flexibility

Note. √ = Theme present and × = Theme not present.

As summarised in Table 17, eight major and six minor themes were generated from 23 focus group sessions conducted in the six CARICOM states on students' perceptions of pursuing the CVQ level 1 in secondary schools. The analysis was guided by these themes.

CVQ as a career option. With the exception of Dominica, students from the other five countries made specific reference to the CVQ as a good career option, however, the unclear relationship between CVQ and career choices was also evident. Students in Barbados spoke about the CVQ assisting with their career trajectories in becoming chefs and engineers. One indicated that “I want to be a chef, so the CVQ will come in handy”. However, the CVQ was also envisioned as an enabler/enhancer for career trajectories such as engineering as one student opined “for me, the area I am looking at is engineering, the CVQ made me a lot more aware of the area and the subjects to be qualified to be an engineer”. On the contrary, some students in Barbados also explicitly indicated that the CVQ was not a career option. The disconnect between CVQ and their envisioned career choices was evident in their responses. For example, one student indicated that the CVQ was not really a career option since his aim was “trying to get a football career”. In Dominica, one student opined “I don’t see it as a career option, but something I will do for myself”. Another indicated “It is something I will do to make me look nice but not as a career option”. This perceived value of the CVQ was also expressed by the students from the TCI, although they expressed that the various CVQs pursued were good career options, in some instances the careers identified were not aligned to the CVQs pursued. For example, one student indicated, “My career choice is being an architect, and Carpentry is therefore the way to go”.

Some students in Grenada indicated that the CVQ was needed for their future careers, for example, one student stated that the CVQ was “needed for my future career as a home renovator”. Another indicated that the CVQ being pursued was “needed for my future career as a carpenter”. A tangential relationship between CVQ and career choice was also gleaned from the responses from some students in Grenada. They viewed CVQ as an opportunity to get “hands on training” and “when you leave school, you can plant crops”. The loose or blurred relationships between

CVQ and career choice was very clearly articulated by at least three out of nine students from one school in Grenada. They were clear in the belief that the CVQ was not needed for their choice career. One of these students indicated that he “really want to be a bank accountant” while another indicated that “I want to be a doctor; this is not needed for my career”. Two students indicated that the CVQ was not their selected career option, instead, one perceived that acquisition of the skill will allow her to ‘do it herself’, while the other suggested that the CVQ will assist in building her image.

The CVQ was also viewed as acceptable matriculation requirements as one student in Jamaica indicated that the CVQ presented them with “a great opportunity to further studies in fashion”. However, there were divergent views from other students as one responded that it was “not a bad career option but [I] did not pick it, for me it will not make sense”. Another stated that the CVQ was a good option but it “does not follow my career path, I want to become a doctor”. Yet another student indicated that he wanted to become a veterinarian.

In T&T, the majority of the students indicated that the CVQ was a good career option. One student opined “It is a good career to have in the field of Auto Mechanics [there are] so many things to learn in the field of Auto Mechanics”. Another student indicated that Data Operations “will do as a career” as her career goal was to become a Data Operations teacher. However, as with other countries one T&T student indicated that he was “doing it for doing sake, but later in life I am not going to do this since I want to be a Firefighter”.

Acquisition of skills. was a very dominant theme amongst the students in all countries of the sample. The pursuit of the CVQ was perceived as assisting in the development of a wide range of personal/soft skills such as self-reliance and job skills which can be honed to become self-sufficient or to generate income. Other responses alluded to the benefits of acquiring skills to supplement income or to provide assistance to others by way of skilled labour.

One student in Barbados spoke about acquiring skills, which “will come in handy”. Another opined that the CVQ equipped persons with “skills for the future”. Other responses from Barbadian students included acquiring more skills, improving skills already possessed and the superiority of CVQ skills which gave them “the edge over everybody else”.

Students in Dominica alluded to the importance of the various skills acquired which will enable them to “sew anything, construct garments, bags and cases”. Others indicated that they will be able to make items for themselves or help themselves and save money as a result. One Grenadian student also indicated that the acquisition of hands-on skills will assist in saving money since he “will not have to pay persons.” This was also expressed by students in T&T who spoke about the usefulness of acquiring skills such as earning an income and saving money.

Students in Dominica also affirmed that the CVQ will help with the acquisition and development of a variety of skills so that they can do more. Two others associated CVQs pursued with skills that prepare persons for the home, one student indicated “It is a necessary thing to have to be a good homemaker” while the other divulged that he wanted to be a “home renovator”.

Jamaican students spoke about learning new skills and acquiring skills to obtain jobs.

In the TCI, students highlighted the benefits of acquiring skills, one student stated, “we can improve if we have skills and achieve our goals in the future” Others alluded to the acquisition of skills to “get a job and use it to do personal stuff” as well as using “your hands to build stuff”.

Students in T&T also highlighted the value of acquisition of skills which prepared them to be competent and proficient on the job as evidenced by one who articulated “when you go and get a job, you will know what to do”, while another indicated that the acquisition of skills made them “more competent”.

Increased marketability. With the exception of Dominica, students from all other countries attributed the possession of a CVQ to increased marketability. Many students in Barbados commented on the ease of transitioning to the job market such as the hotel industry once they were certified.

When questioned about the advantages of pursuing the CVQ, students in Grenada made reference to obtaining an income, but not a steady one. Responses included “You can do things for people and earn money when a job is not available,” while another maintained that “You can earn extra money.” At least four students affirmed that an advantage of pursuing the CVQ was the ease of finding employment.

Other responses included quicker and easier access to jobs, while another made reference to preparation for jobs, noting that “we are learning more about the job”.

Students in Jamaica also affirmed the ease of transition to the job market once in possession of a CVQ. One student verbalised the “progress from school with certification into the job market”. Others referred to the ease of finding employment as well as the ability to “partake in different jobs”.

Students in TCI confidently articulated the ability to find employment having acquired the CVQ. Several students referred to the ease of obtaining employment, going out “into the real world to get a job” and doing “certain jobs in different areas”. Not many students in T&T alluded to accessing jobs with the CVQ. However, a student from one of the schools indicated that there was a demand for jobs in the CVQ being pursued and that “they will want people” with CVQs in that area.

CVQ as a backup. Interestingly, this theme pervaded in four out of the six countries where the CVQ was not perceived as a primary career choice but as a backup or something to fall back on. In Barbados, some students spoke about the CVQ as something “to fall back on” or as a backup. One student indicated that the CVQ was “not my first goal, if it don’t work [my first goal], I have that [CVQ] to backup”

In Grenada, many students opined that it was “something to bounce back on” while others indicated that it “could be something on the side, we can save money”. Two students contended that the CVQ can be an alternative to their primary job by indicating that “you can use it as a backup, as the things you learn will always stay with you” while the other indicated that it is “something you can fall back on”. One student alluded to the ability to earn income after pursuing the CVQ, but via an alternative job as a hawker since the skills acquired can be used to produce items for sale. The student indicated the CVQ “will bring income in other jobs because he can go on the streets and sell”. At least two students implied that they will be able to do something else if they failed in their major career pursuit as evidenced by one who declared “It is something to fall back on” while another articulated “You can always bounce back on it”. Two other students identified the CVQ as a second career option, one indicated that although the CVQ assisted in understanding food preparation and being a chef was his career choice, it was his second career option. The other remarked “since being a criminologist is impossible, I have to go to my second choice”.

One Jamaican student spoke about the CVQ “as a future side job”. Two others indicated that “It [CVQ] comes like a second chance in life, if I don’t get all my subjects, I can rely on cosmetology to fall back on” and “you can have something to do if you don’t have subjects”.

In T&T, students from at least four schools pursuing different occupational areas mentioned that the CVQ can be used as backup. One student indicated that the CVQ was a “backup plan in case when you leave school you can do grow box farming”. Another student opined that pursuing Data Operations “can be used it as something to fall back on”. Yet another student, although indicating that the CVQ was considered an asset, also alluded to it as “something to fall back on”.

Certification. Premium value was placed on the acquisition of certification in the CVQ. Students in most of the countries highlighted the importance and significance of being CVQ certified. This was especially the case of students in Barbados, Dominica, TCI, T&T and Grenada. For instance, one Grenadian student noted that persons will have a better chance of becoming certified, while another maintained that there will be no need to attend college if they obtained CVQ certification. Another spoke about the advantage of the CVQ leading to certification which will assist in finding employment. On the contrary, only few Jamaican students made reference to the CVQ affording them the opportunity to become certified.

Enhanced mobility/portability. With the exception of Dominica, students in all countries highlighted the portability of the CVQ, in particular, the ability afforded by the CVQ to work in any CARICOM state. Students in Barbados spoke about travelling overseas and other Caribbean islands to work. Interestingly, students in Barbados also mentioned the CVQ as a prerequisite to work in developed countries such as Canada. Students in Jamaica also alluded to the CVQ as affording the opportunity to “help you get a passport and visa to go to Canada...anywhere you get a call”.

Grenadian students identified opportunities for self-improvement and enhanced mobility, one articulated “You can better yourself, you can go anywhere in the Caribbean to get a work”, with one of them referring to the portability of the CVQ by expressing that “you have a chance of travelling around the Caribbean to get a job”. Another student opined, “when you learn this in school, you will be further ahead.”

Students in Grenada and TCI respectively indicated that the CVQ presented them with good opportunities, one made specific reference to progression to higher levels of learning, noting that “it will take less time to get to level four and level five certification while students in TCI alluded to the opportunity to “further our education in college”.

In T&T, students spoke about the CVQ allowing them to work in other CARICOM countries. One student indicated that you “can go to any CARICOM state and get a job without any inconvenience”. Others indicated that they were “free to go out to Caribbean countries”, and that “I find it interesting as it gives worldwide experience and you can go to the Caribbean to work”, and that the “CVQ qualification can be used anywhere in the Caribbean”.

Entrepreneurship. Students from all countries with the exception of TCI acknowledged the availability of entrepreneurial opportunities in production farming, the restaurant and auto mechanic businesses after pursuing the CVQ. For example, students from Barbados identified entrepreneurial opportunities such as restaurants and crop production farming as viable options. Similarly, students in Jamaica, T&T, Dominica and Grenada mentioned becoming entrepreneurs and becoming self-employed. One Dominican student indicated that after completing the CVQ in auto mechanics he will be able to “open a garage shop”. Two Grenadian students specified that completing the CVQ will open up opportunities for them to “produce goods to be exported” which will “bring in foreign exchange”.

In T&T, one student opined that you “could be your own boss, you don’t have to work under people”. Another added that self-employed persons “don’t have to depend on people”. Others spoke about opening their own business, and one student indicated that he “can be a sole trader and reap the benefits of sole trading, producing more goods”.

Hobby/DIY. A recurring theme that emerged was the advantage of the CVQ in supplementing income or allowing persons to “Do-it-Yourself” (DIY).

In Barbados, students spoke about “helping you plant at home”, “learning more skills that will come in handy” and the CVQ affording them “the opportunity to do things, practical stuff”.

Similarly, students in Dominica spoke about “building my house on my own” and the CVQ equipping persons to “help yourself...do it yourself”. Two others indicated that they will be able to make items for themselves or help themselves. One indicated that she “will be able to sew anything, construct garments, bags and cases”, another added that they will be able to save money as a result.

In Grenada, one student spoke about the CVQ saving on “labour cost” while another indicated that “you will not have to pay much money to build your house etc. You can do most of it”.

Students in Jamaica, T&T and TCI spoke about being able to DIY. One Jamaican student indicated that he “won’t have to call, can fix it himself or DIY”. Another stated that he can “grow crops instead of buying”. Students from T&T stated that they will not have to “pay to fix” as well as giving them “a sense of pride knowing that you can do things on your own”. Similar sentiments were echoed by a student from TCI who opined, “It will help me to have experience to do my own work”, while another indicated that the CVQ will “help me to do personal stuff”.

Unique emergent themes specific to countries. Emergent themes specific to countries highlighted areas related to preparation for further education, relief from schoolwork, increasing skills standards in society, stress relief, flexibility and the promotion of the CVQ for those not academically inclined.

Students in Barbados alluded to the value of the CVQ for university students pursuing engineering careers, noting that these graduates were well versed in theoretical concepts but with little or no hands-on experience. Another response from Barbados was that the CVQ should be made mandatory in all schools. TCI students made reference to the flexibility of the CVQ with its modular approach. One student indicated “When we finish high school, we will get a certificate saying, good at hand tools”. Another student opined that more CVQ subjects should be offered in the schools. Interestingly, Grenadian students also highlighted the benefits of the CVQ programme in assisting with preparation for CSEC Food and Nutrition class. One student indicated that “it helps you to get accustomed to what you have to do”. Two other students expressed that the CVQ served to provide supplemental information which assisted in preparation for the CSEC Food and Nutrition.

Students in Grenada attributed the CVQ to raising the standard of work in society as well as changing traditional gender roles. One student asserted “we being boys, we will be able to do something in the house.” Students also spoke about the value of experiential learning by indicating that “you appreciate what you get to learn from doing”, while another alluded to being actively involved when pursuing the CVQ. These views were in stark contrast with those expressed by Trinidadian, Dominican and Jamaican students. Trinidadian students indicated that the CVQ was “an option for students who are not academically inclined”. Dominican respondents indicated that “hands on skill is like relief from other school work. Similarly, students in one Jamaican school indicated that the CVQ was a “go to” subject to relieve stress and that it served as a “coping mechanism” which assisted in making their studies more manageable.

Research question 1 b.). (i) How do select teachers perceive students pursuing CVQ level 1 in secondary schools?

Data for Question 1 b(i) emanated from focus group interviews with teachers. A summary of the thematic analysis is presented in Table 18.

Table 18

Summary of Teachers’ Perceptions of Students’ Pursuit of CVQ Level 1 in Secondary Schools

Country	Good career option	Acquisition of skills	Increased marketability/ Preparation for WOW	Certification/ Qualification	Entrepreneurship	For students not academically inclined	Other themes
Barbados	√	√	√	√	×	×	Enhanced Mobility/ Portability Experiential learning
Dominica	√	√	√	×	×	√	No notable response
Grenada	√	√	√	√	×	√	Boost the economy
Jamaica	√	√	√	×	×	√	CBET is the “way to go”/ Career progression

T&T	√	√	√	√	√	√	Increases self-esteem, builds confidence, motivates students
TCI	√	√	√	×	×	×	Not fully ready for implementation

Note. √ = Theme present and × = Theme not present.

As presented in Table 18, 6 major and 6 minor themes emerged from interviews with teachers in relation to how they perceived students pursuing CVQ level 1 in secondary schools. These themes are discussed in this section.

Good career option. There was unanimous agreement among teachers from all countries regarding the CVQ as a good career option, however justifications proffered to support their perceptions were varied. One teacher from Jamaica, in endorsing the CVQ, added a caveat by indicating “If it is delivered properly and properly organised, it is a good option”. This was also echoed by another teacher from Grenada who indicated that the CVQ is “very good, based on how it is supposed to be taught”. One Grenadian teacher indicated that “It can work, and it is the way forward,”. The teacher also expressed willingness to promote the CVQ as a career option. Yet another teacher from Grenada perceived the CVQ was a very good career option because of the CBET approach used for delivery. He indicated that the CVQ “opens a lot of doors for students” since students can select from a wide range of specialisations. Interestingly, this view was in contrast with that of another teacher who lamented “We are losing our students. However, as much as the CVQ is good, the programme is filled with reading and writing, and this could be a deterrent for students.”

Grenadian teachers interviewed were also convinced that the implementation of the CVQ was a “step in the right direction”, having previously prepared students for another type of TVET qualification. This was substantiated by one teacher who verbalised, “I support it 100%. Students are better equipped than CSEC.” This sentiment was echoed by a Trinidadian teacher who indicated that the CVQ is “a step in the right direction, having taught NEC (National Examinations Council Programmes).” Responses from teachers in other countries described the CVQ as a “good career start”, a “viable option” an “excellent career option” and a “vital alternative.”

Acquisition of skills. Teachers from all countries alluded to the value of the CVQ in ensuring the acquisition of skills. One teacher from Dominica maintained that students will be able to use the skills acquired even if they have another job. She indicated “skill is something that no one can take away. Even if you have another job, you are able to do something with your skill”. A Grenadian teacher correlated the acquisition of skills with the ability to obtain jobs, while one from Jamaica made reference to the availability of a limited number of “academic” jobs and the possession of skills paving the way for other jobs by expressing “as a teacher, we gear students towards a skill....academic jobs [are] for a few”. This was also expressed by Barbadian teachers who spoke about the CVQ providing skills for industry and one teacher from the TCI who expressed that the CVQ “produces skilled individuals in specific areas”. A teacher from T&T spoke about the CVQ catering to the “special skills” needs of Tobago. However, one Grenadian teacher, although in agreement that the CVQ was a good option inferred “students are not academically inclined, so it is important to have a skill”.

Marketability/preparation for the world of work (WOW). Teachers from the six countries highlighted the value of the CVQ in increasing the marketability of students and preparing students for the world of work. A Grenadian teacher maintained that CVQ students will have easier access to jobs in the industry, while another opined that the CVQ will make students more marketable. Another Grenadian teacher posited that in general the CVQ was a good reform initiative since the students would acquire skills which would assist them in getting employed. He posited that the programme was a good one, however, the issue was lack of buy in by stakeholders such as parents and teachers and suggested the hosting of PTA sessions with these stakeholders to address the issue. Yet another Grenadian teacher also made reference to the importance of the CVQ in preparing students for the world of work and for “easier access to work in industry”. This was also expressed by a Dominican teacher. One teacher from Grenada indicated that the CVQ was a very important option for students since it will prepare them for industry, comparing the CVQ with CSEC subjects which she opined was more theoretical in nature and will not allow for that type of preparation. Similar statements were made by teachers from Dominica and Barbados and Jamaica. One teacher from Dominica also maintained that “students

who leave with the CVQ can go to industry”. Barbadian teachers expressed that the CVQ made students more marketable in statements articulated such as, “competencies should allow students to hold their own in a work environment”, “get students ready for the world of work” and “prepares persons for the workforce”. A Jamaican teacher opined, “training in high school will make it more feasible for future learning and employment”.

Teachers from T&T indicated that the students “can use [CVQ] as a catapult to get to the job market” and that the CVQ “prepares students for the workforce”. Others mentioned that the CVQ was “very applicable to the world of work”, that it was “more geared for the working world” and that it “makes students employable”.

Certification/qualification. Teachers from three countries highlighted the value of obtaining CVQ certification. One Barbadian teacher indicated that the CVQ “gives certification, saying I have it” while another teacher from Grenada pointed out that employers were requesting graduates that were CVQ certified. Teachers from T&T emphasised the value of students getting certified in basic skills.

Entrepreneurship. Teachers from two countries attributed the CVQ to building entrepreneurial capabilities in students. A Jamaican teacher suggested that “entrepreneurship is very important in school, especially for our types of students.” A teacher from T&T indicated that the CVQ “leads to self-employment” and the creation of “young entrepreneurs”.

For students not academically inclined. An interesting theme that emerged from four countries revealed that some teachers perceive the CVQ as an option for students who were not academically inclined. One Dominican teacher implied that “not all students are academically inclined” hence the CVQ was a good option for some. One Grenadian teacher endorsed the CVQ as an excellent career option, but for students who were not academically inclined. The teacher indicated “the CVQ is an excellent career option because not all students are academically inclined”. Trinidadian teachers also inferred that the CVQ was most suited for students who were not academically inclined. One teacher indicated that it was “the best thing for students, most of them are remedial and doing practicals is better for them”, while another indicated that students pursuing the CVQ from that school were “not so academically inclined”. A

Jamaican teacher, in endorsing the importance of students acquiring a skill also inferred that the CVQ was for students who were not academically inclined.

Unique emergent themes specific to countries. Interestingly, Barbados was the only country where reference was made to the portability of the CVQ as one teacher indicated that “students with certification have easier access to employment locally and abroad”. Another theme that emerged from Barbados was the advantage of one of the methodologies used to deliver the CVQ, experiential learning or learning by doing. The respondent indicated that “learning by doing is best, students are more interested”.

Teachers from T&T implied that the CVQ “increases the self-esteem and builds self confidence in students”, another indicated that the CVQ “helps to motivate the learning process of students”, another spoke about improving the socio-economic status of the country since the CVQ was seen as providing revenue earning opportunities. A similar view was expressed by a Grenadian teacher who said that the CVQ “can help to boost the economy”.

One teacher from TCI commented on the level of readiness for the implementation of the CVQ by revealing that they were “not fully ready yet”.

In revealing his perception of the CVQ, one teacher from Jamaica commented on the value of using the CBET approach in delivering the CVQ and maintained that it was the “way to go”. Jamaican teachers also made reference to the CVQ affording career progression by indicating that the CVQ was a “steppingstone for future training” as well as making it more feasible for future learning.

Overarching question. What are select stakeholders’ perceptions about the CVQ?

Research question 1 b(ii). How do select principals/administrators perceive students pursuing the CVQ level 1 in secondary schools?

Data for Research Question b(ii) emanated from interviews with principals/administrators. A summary of the thematic analysis is presented in Table 19.

Table 19

Summary of Themes by Countries of Principals/ Administrators' Perceptions of Students Pursuing the CVQ Level 1 in Secondary Schools

Country	Good career option	Acquisition of skills	Increased marketability/ Preparation for WOW	Enhanced Mobility /Portability	Certification/ Qualification	Better choice than CSEC	Entrepreneurship	For students not academically inclined	Other themes
Barbados	√	√	√	√	√	√	×	×	Carries more weight than other qualifications
Dominica	√	√	√	×	×	×	×	×	Cannot afford it
Grenada	√	√	√	√	√	√	×	√	Inadequate level of readiness
Jamaica	√	×	×	√	√	×	√	√	CBET meets demands of the 21 st century
T&T	√	√	√	×	√	×	√	√	Increases socio economic situation
TCI	√	×	×	×	√	×	×	√	Caters to kinesthetic learners

Note. √ = Theme present and × = Theme not present.

Table 19 shows the themes generated from interviews of principals/administrators. These themes formed the basis of the analysis of how principals/administrators perceived students pursuing the CVQ level 1 in secondary schools.

Good career option. There was unanimous agreement among principals from all countries regarding the CVQ as a good career option, however justifications proffered to support their perceptions were varied. All principals/administrators interviewed in Barbados schools concurred that the CVQ was a good career option. The responses from the principal interviewed in Dominica indicated that the CVQ was a good career option. She explained that given the dearth of skilled persons in the community, the CVQ presented the opportunity for a ready market for skilled graduates who will be

able to generate income. All principals/administrators interviewed in Grenada schools indicated that the CVQ was a good career option. One principal further expounded “It is a good option for students to get qualified in different areas because they will be better able to get jobs”. She also stated that students who expressed interest in pursuing the CVQ in furniture making, were given the opportunity to do so and that the programme was tailored to their needs. Another principal opined that the implementation of the CVQ was a “very good idea” and posited that “It allows persons to have not only theoretical but practical skills. They will be able to operate more in a worker setting as they can do skills”. These perceptions were also echoed by principals in T&T. Principals/administrators interviewed in Jamaica and TCI concurred that the CVQ was a good career option. However, one principal in the TCI lamented, “[I]wish we can offer more options”.

Acquisition of skills. Barbadian and Trinidadian principals/administrators highlighted the acquisition of skills as one of the benefits of students pursuing the CVQ. One Grenadian principal opined that the implementation of the CVQ was a “very good idea” and posited, “It allows persons to have not only theoretical but practical [skills]. They will be able to operate more in a worker setting as they are “can do skills”.

Marketability/ preparation for WOW. Principals/administrators from Barbados, Dominica, Grenada and T&T expressed that the CVQ will contribute to increased marketability of CVQ graduates.

Enhanced mobility/portability. Principals/administrators from Barbados and Jamaica alluded to the portability of the qualification. One Jamaican principal indicated that the CVQ “fosters exchange as there is an opportunity to work in other Caribbean countries”.

Certification/qualification. Principals/administrators from four out of the six countries felt that the CVQ presented a good opportunity to be certified. In Barbados and Jamaica, principals alluded to the CVQ affording students the opportunity to be certified. TCI principals also made reference to the benefits of CVQ certification.

Better choice than CSEC. Interestingly, principals/administrators from two territories opined that the CVQ presented as a better choice than CSEC in both the approach to delivery and the type of certification. In Barbados, one principal made

reference to the CBET approach employed for the delivery of the CVQ and admitted that the preparation of students for the CVQ was superior to that for CSEC. A Grenadian principal expressed that the CVQ will contribute to making students more marketable and added “I know that business places would prefer to have persons who are skilled in a particular area- better thing for them to have a CVQ as an option than a regular CSEC subject”.

Entrepreneurship. Principals/administrators in Jamaica and T&T highlighted the entrepreneurial opportunities available to students who pursue the CVQ. The Jamaican principal maintained that the students could establish their own businesses while those in T&T opined that the students would be able to “build themselves as young entrepreneurs.”

For students not academically inclined. Principals/administrators from four out of the six countries perceived the CVQ as a subject for students who were not academically inclined. One principal from Grenada commented that the CVQ was a good option for students who were not academically inclined, noting that it would be “nice if more students get involved, should learn a skill, some of them not academically inclined”. One Jamaican principal, in alluding to the certification opportunities presented, restricted this to slow learners by stating that the CVQ “Allows ones that are not so academically inclined to leave with certification”. Another Jamaican principal also presented the CVQ as an option for slow learners but in a different context. Reference was made to the challenges posed when conducting integrated assessments for slow learners as evidenced by indicating that “Most of the kids are slow learners [it is] challenging sometimes you have to cluster units.” However, although one TCI principal alluded to the benefits of the CVQ, it was implied that the CVQ was for slow learners by articulating that it was “beneficial to more than just slow learners”. Principals/administrators in T&T also perceived the CVQ as more suitable for the weaker students or those who were not academically inclined. One principal indicated that the CVQ was “for students who are struggling as they may enjoy the practical aspect of the CVQ”.

Unique emergent themes from specific countries. One emergent theme unique to Barbados was the comparative weighting of the qualification as one principal opined that the CVQ “carries more weight than other qualifications that were there before.”

A Dominican principal, although admitting that the CVQ was a good reform initiative, spoke to the affordability of its implementation by expressing, “we cannot afford it, but its good”.

Another theme that emerged solely from Grenada was the state of readiness for the implementation of the CVQ. Although one principal acknowledged that she was pleased that the CVQ was being offered, especially since it was skill based, she expressed concern about the state of readiness for implementation. One theme emanating solely from principals/administrators in Jamaica when questioned about their perception of the CVQ as a career option was the value of employing the CBET methodology. One principal expounded “at this point in time, the particular nature of how it [CVQ] is being assessed, CBET is what we need to meet the demands of the 21st century”.

Another perception of the CVQ gleaned from principals in TCI was its appeal to kinesthetic learners. One principal indicated that “A number of students are kinesthetic, it caters to those who are hands on since it is heavily practical based”. A theme that emanated solely from Tobago was the CVQ as helping to improve socio-economic conditions in Tobago. One principal opined that the CVQ “can be a revenue earner” and that it can “increase the socio-economic situation” in Tobago.

Research question 1 c.(i). From the perspective of select students, what are the perceived influences on students’ decision to pursue the CVQ level 1?

Table 20

Summary of Themes by Countries of Students’ Perception of Influences on their Decision to Pursue the CVQ Level 1

Country	Teachers	Parents	Peers	Relatives	Jobs	Entrepreneurship	Creativity	Career	Other themes
Barbados	√	√	×	√	√	×	×	×	International acceptance of the CVQ
Dominica	√	√	√	√	×	×	×	×	Dislike for reading

Grenada	√	√	√	√	√	×	×	√	Stem male attrition
Jamaica	√	√	×	√	√	√	√	√	Expensive
T&T	√	√	×	√	√	×	√	√	Guidance Counsellor
TCI	√	√	√	√	×	√	×	×	Challenges with numeracy and literacy

Note. √ = Theme present and × = Theme not present.

As summarised in Table 20, eight major and six minor themes were generated from 23 focus group sessions conducted involving students in six CARICOM states on what or who influenced their decision to pursue the CVQ. The analysis was guided by these themes.

Teachers. There was consensus among students in all schools from all countries that teachers influenced their decision to pursue the CVQ. One student from Barbados revealed that the CVQ was selected by “the whole class because of the teacher”. Another indicated that “For me, it is similar, I think that the teacher we had was very enthusiastic about the CVQ, so she inspired me to take it and I don’t think I regret my decision”. Another student from Dominica affirmed, “My teacher was the greatest influence”. It was disclosed that in some instances, teachers also influenced the selection of one CVQ over another as evidenced by one student in Jamaica revealing that he was convinced by the teacher that “welding [is] better than auto”.

Parents. Reasons for parents as influencers were also similar in all schools across countries and the majority indicated that they wanted the same profession as their parents. One Grenadian student indicated, “My mother is a chef and I learn from her. I like to deal with foods”. However, this was not the case in all countries as, although this response was in the minority, one student from Jamaica revealed that his father “does not want me to do farming, so [I] did auto”.

Peers. Students from three out of the six countries identified their peers as influencers of their decision to pursue the CVQ. Interestingly, students did not expound on reasons for this response, however, one student from Dominica actually admitted that it was because of “peer pressure”.

Relatives. Another popular response from students across all countries was that relatives influenced their decision to pursue the CVQ. Relatives included siblings, aunts and uncles and grandparents. According to one student from T&T, the influencer was “Family members who experienced it”. One Grenadian student pursuing the CVQ in crop production indicated that he “wanted to keep the legacy going” as his grandfather was a farmer, while another stated that an aunt was the influencer, because they wanted to “follow in her footsteps”.

Jobs. Students from four of the six countries identified job prospects as influencing their decision to pursue the CVQ. Students in Barbados identified specific types of jobs that will be available such as landscaping and jobs in hospitality. At least one spoke about the difficulty in finding jobs by pointing out that “these days, [it is] hard to get jobs”. A student from T&T alluded to the “difficulty of getting work”, while another referred to the practicality of the CVQ in facilitating success in finding jobs by indicating that the CVQ is “helpful when you finish school and going to get a job, the practicals of the CVQ and how to operate equipment etc.”.

Entrepreneurship. Another theme that emerged from two of the six countries was entrepreneurship. One Grenadian student indicated that with the CVQ, self-employment will be possible, while another indicated that he would be self-employed and therefore “make money for the future”. A Trinidadian student maintained that his “future profession was running [his] own electric shop” while another spoke about the ability of “making your own enterprise” by pursuing the CVQ.

Creativity. An interesting theme that emerged from two countries was creativity. One student in Jamaica remarked that the CVQ will allow one to be “unique and creative”. At least two students in a Tobago school (T&T) pursuing the CVQ in Pan Manufacturing mentioned creativity as one of the talents honed. One verbalised, “I always like to be creative so pan making helps me to express my creativity. I get to create a pan, now I can play”. Another one added that the CVQ “allows creativity, CVQ is a way to express creativity”.

Career. Career aspiration as an influencer to pursue the CVQ was disclosed in only two countries. Students in Grenada revealed that the CVQ was “important for my career goal”. Another indicated that “I realise that the CVQ is important for what I want to be”. Students in T&T also revealed that their career goal was the influencing

factor in making a decision to pursue the CVQ. One student made it known that he “could have taken any other CVQ but my career choice is civil engineer”.

Unique emergent themes specific to countries. Although not popular, some themes identified were important enough to include in these findings. For example, students in Barbados maintained that one of the deciding factors was the mobility/portability CVQ certification afforded. One student articulated, “Definitely the fact that it is accepted in Canada and England, because those are two places I would like to study”. Another student added “also the fact that the CVQ is accepted in certain countries in the world, and it will be a good qualification to have so you can say...well, you are certified to do this or you are certified to do that and you won’t have to go over or redo the course”.

One student in Dominica admitted that her dislike for reading was the deciding factor, while another in Jamaica stated that a deciding factor was affordability since pursuing the CVQ was “expensive...you have to buy equipment”.

Interestingly, a number of students from the TCI related their experiences and proffered reasons why they were given the option of pursuing the CVQ. One student affirmed that “we got something we could do”. While another indicated that “For CVQ, you don’t have to do actual exams, we do portfolio and do practical, so we have a better opportunity”. However, others revealed their discontent with the option provided, one stated that “they don’t teach us for CXC – for other subjects, we [are] doing baby maths, that’s what they do to us”. Another added “CXC is for smart children and CVQ is just for other children”.

Exposure to career counselling or career counsellors as influencing factors in pursuing the CVQ was only revealed in T&T. Students spoke about a Career Day providing information that assisted in making their decision, as well as the influence of a Guidance Counsellor. Students in Grenada also made reference to a meeting where the CVQ was on the agenda. One student indicated that he was influenced to pursue the CVQ when “they spoke about it in a meeting” while another acknowledged that the impetus was because they were the first or pilot cohort by indicating that “they also say we are pilot, we are the head of the plane”. However, information on the conveners of the meeting was not made known. Another Grenadian student alluded to making a difference in society by stemming the attrition of males, he expressed that

pursuing the CVQ would contribute to making a difference in society as it would serve to keep young boys in school.

Research question 1 c.(ii) From the perspective of select teachers, what are the perceived influences of students' decision to pursue the CVQ level 1?

Table 21

Summary of Students' Perceived Influences to Pursue the CVQ from the Perspective of Select Teachers

Country	Teachers	Parents	Administrators	Miscommunication	Mandatory	Funds	Lack of awareness	Peers	For students not academically inclined	Other themes
Barbados	√	√	√	×	√	×	×	√	×	Societal perceptions
Dominica	√	×	×	√	×	×	×	×	×	Success of past students
Grenada	√	√	√	√	×	√	×	√	√	Grades
Jamaica	√	√	√	×	√	√	√	√	×	No notable response
T&T	√	√	√	√	√	×	√	×	√	CVQ will not be a challenge for slow learners
TCI	√	√	√	×	×	×	√	×	×	No notable response

Note. √ = Theme present and × = Theme not present.

As depicted in Table 21, a summary of the findings generated from 19 focus group interview sessions conducted with teachers in the six CARICOM states of the study. The data revealed nine major and four minor themes which guided this aspect of the analysis of teachers' perceptions of the influences on students' decision to pursue the CVQ.

Teachers. In response to questions posed to teachers from all countries regarding perceived influencers of students' option to pursue the CVQ, they all admitted that their influence was significant. Teachers in Dominica opined that this was due to their direct connection with the students, because they “advertise before students end third form” and they “are introduced [to the CVQ] in second form”. One Grenadian teacher disclosed “I have the potential to influence kids a lot to see the benefits of the CVQ”. Familiarity with the teacher was also put forward as a reason, one teacher from T&T explained “sometimes they [students] may be familiar with teachers at the lower form level so they tend to gravitate to teachers who they are accustomed to”. However, not all influence exerted by teachers was positive, as one Trinidadian teacher revealed that “teachers tend to talk down music”, while one in Grenada spoke about some teachers influencing students' choice but “not in a good way”.

Parents. The influence of parents was another reason attributed to students choosing CVQ as a viable option. However, most of the comments made pointed to parents' perception which were sometimes negative. One teacher from Barbados indicated that “If parents don't see the value, that will be problems. Parents ask if it is weighted the same”. Another teacher from Grenada revealed that “Parents and other important persons give them wrong information”, and quickly added that “we will do better when we have high end students doing these areas”, while another commented “we need to get parents to understand the benefits of this”. This trend was supported by Jamaican teachers, one of whom opined “we have to be convincing to parents, parents are not a positive influence”, while another maintained that “parents' influences and parents' understanding and appreciation of the CVQ is very important”. Teachers from T&T opined that “some parents may not be educated as to the importance of the CVQ”, while another indicated that “parents may prefer the child to do CXC [CSEC]”. Others revealed that they “had problems convincing teachers to accept CVQ in schools”, and that “A lot of teachers did not approve”. Some suggestions proffered by teachers to address parents' negative attitudes towards the CVQ included sensitisation at PTA meetings as well as parents' consultations.

Administrators. Teachers from five countries perceived that principals/administrator greatly influenced students' option to pursue the CVQ either

positively or negatively. For example, one teacher from Barbados pointed out “the way administrators lead can discourage students from pursuing the CVQ. Administration wants to compete with other schools and the benchmark for good performance is CXC [CSEC]. Technical areas tend to suffer”. Similarly, one Grenadian teacher indicated that “some principals don’t understand the importance of CVQs”, while a Trinidadian teacher said, “not administration... [they have] no influence”. However, a teacher from Jamaica stated that the administrator “has opened up doors” for students. Another teacher from T&T related “administrators support it in terms of they do give materials and those sorts of things to conduct the exercise”.

Miscommunication. Teachers from three out of the six countries alluded to miscommunication as an influencer. One teacher from T&T indicated that students were told that it is “not a CXC subject...they are giving them wrong information.” A teacher from another school alluded to “miscommunication, where information was being circulated that the CVQ was “not a CXC subject”.

Another Jamaican teacher revealed “some [students] have information, but the information is not consistent...there are gaps”. Teachers from Dominica also indicated that they “talk about it [CVQ] on the radio... but on the ground is a different story”.

Mandatory. It was revealed that the CVQ was mandatory in some schools from three of the six countries. However, students in some schools had an option of selecting which CVQ they will pursue as articulated by two teachers from T&T who indicated that in “the selection of a CVQ, they [students] have a choice” and the other who indicated “some students have a likeness for some areas like Clothing and Textiles, Grow box and Agri science”. This also held true for students in Barbados as one teacher explained that “students have a choice, but they don’t always get what they choose”. A teacher from one of the schools in Grenada revealed that “students were placed there; they did not opt to do the CVQ”. Teachers from T&T also indicated that students were not afforded an option to pursue the CVQ. One teacher explained that the CVQ was “not an option for our students, students must do CVQ. The subject is placed in one of the groupings where the student must do the CVQ”. In some instances, teachers’ responses also made reference to the rationale for making

the CVQ mandatory. For example, one teacher from T&T related “For some, it was not a decision they had to make, it was given to them because of their performance from forms 1 to 3”. A teacher from another school disclosed “sometimes they don’t have a choice, we have to give them something [subject to pursue]”.

Availability of funds. The theme “availability of funds” as an influencer to pursue the CVQ level 1 emerged from two countries. One Grenadian teacher identified money as an influencer on the part of the school by indicating “probably money, CVQ costs a lot of money. Currently we don’t have anything in place to provide raw materials needed”. Another teacher from Jamaica suggested “funds for preparation of portfolio”, while another added “funds, they [students] have to provide all material they have to use for practical...they have to print”.

Lack of awareness. Lack of awareness on the part of students as well as parents about the CVQ emerged as a theme in three out of six countries. One teacher in Jamaica opined that there was a “lack of awareness and lack of knowledge” among students. One teacher from the TCI believed that sensitisation of the programme was not effective in conveying the benefits of pursuing the CVQ to the parents. One teacher in T&T was of the view that “Many persons are not aware of what CVQ is, therefore, they don’t see it as something for children to do”. Another teacher indicated that the “CVQ was not understood, initially we had problems concerning teachers to accept CVQ in schools”, another added “even though CVQ is CXC awarded, it is not understood”.

Peers. Teachers from three out of six countries identified students’ peers as influencers. One Jamaican teacher alluded to “peer pressure, as students might shy away because of what others say”. A teacher from Grenada indicated that “some students’ peers have greater influence”.

Unique emergent themes specific to countries. One of the themes that emerged from Barbados was positive and negative societal perceptions about specific occupational areas. As one teacher expounded “society has influence, it can be negative or positive depending on those in occupations who display their areas. In Barbados, for centuries, skilled workers were associated with a typical type of behaviour, they work during the week and spend time in the rum shop on weekends”. A theme that emerged out of Dominica alluded to success from past students as the influencer as the teacher

indicated “success from past students, right now students...based on what students see”.

In Grenada, teachers revealed that students’ selection was based on grades, as one teacher explained “students are selected based on grades, once they have gotten good grades in technical area, Administration will put them in the technical area”.

In T&T, a couple teachers inferred that “some students are not academically inclined, they have to be educated along the lines of CVQ, however, as the programme started other students are coming on board”, another added “CVQ is to facilitate and help the child”. There were no additional notable themes emerging from Jamaica and TCI.

Research question 1 d.(i). How do select teachers’ perceptions about the CVQ influence, if at all, the delivery of the CVQ level 1?

Table 22

Summary of Themes by Country of How Teachers’ Perceptions About the CVQ Influence Delivery

Country	Redo lessons	Individualised instruction/ self-paced learning	Identify & address weaknesses	Reflective practice	Use own resources	Differentiated learning	Other themes
Barbados	×	√	√	×	×	×	Preparation of students in lower form
Dominica	×	×	×	√	×	×	Persistence in overcoming challenges
Grenada	×	√	×	×	×	√	Unfair treatment of teachers
Jamaica	√	×	√	√	√	√	No notable theme
T&T	√	√	√	√	√	×	Work extra hours
TCI	×	×	√	×	×	×	Adjustment of timetable

Note. √ = Theme present and × = Theme not present.

As depicted in Table 22, six major and five minor themes were generated from 19 interview sessions conducted with teachers in the six CARICOM states of the study on how teachers' perceptions about the CVQ influenced the delivery of the CVQ level 1. The analysis was guided by these themes.

Redo lesson. This theme emerged in Jamaica and T&T. When questioned about the use of data collected from assessments to improve delivery, one teacher from Jamaica explained "I will look at grades and areas to see where my students were not deemed competent." The teacher added that the lessons will need to be redone and evaluated to determine if other methods can be used to raise "their level of competence to an acceptable standard". Two teachers from T&T also alluded to the need for repetition of lessons. One indicated the need "to go back through, allows others to catch up", while another explained that they may have to "go over a unit to deem them competent", and that this will provide "a good idea to know what they [students] are responding to, what strategies you are using".

Individualised instruction. Teachers from Barbados, Grenada and T&T made reference to one-on-one teaching and self-paced learning. One teacher from Barbados explained that instructional delivery should be done "at their own pace, give them time to develop competency". The teacher also suggested that project-based learning should be employed which will task students with responsibilities for designing projects such as landscaping. One Grenadian teacher remarked that both students and teachers require feedback, so one-on-one sessions should be employed engaging in discussions about "how well they[students] performed", as well as the giving students the opportunity to let the teacher know if they "have to do it [the lesson] again". Another teacher explained that adjustments based on results should be made "to improve delivery", since "at the end of the day, you are looking for competence, and you also have to bear in mind that students work at different pace". Likewise, one teacher from T&T explained that there will be a need to "revisit strategies to deal with them [students] on a one-on-one basis".

Identify and address weaknesses. Teachers from four out of the six countries spoke about the need to identify and address weaknesses in students. One Barbadian teacher indicated that "the data collected [from assessments] help to recognise the issues, look at delivery and revise how and what are delivered". Another teacher from Jamaica

explained that he will be required to “evaluate, look at weaknesses, discuss challenges with the students”. He also highlighted the need to use the occupational standards for delivery of instruction, assess to determine if the students have achieved the objectives and “go back to the drawing board and have a discussion” if objectives were not achieved. Three teachers from TCI alluded to this approach, one explained that teachers should “point out mistakes [to the student], areas for improvement that need to be done to help correct where necessary”, the other indicated “where there are weaknesses, evaluate and use other strategies to get up to mark”. Yet another explained that “findings” from assessments should be used “to really influence the other lessons that come up” since the gaps revealed can be addressed by readministering assessments to ensure that students achieve competence. One Trinidadian teacher mentioned the focus should be “where there is a lot of weaknesses”.

Reflective practice. Teachers from three countries suggested that teachers should engage in reflection on delivery strategies with the intention of adapting and adjusting to suit the needs of students. One teacher from Dominica opined, “A lot of it has to do with the fact that you love what you do... already thinking about what we should be doing next”. A Jamaican teacher explained that teachers should reflect to determine what can be done “to make the lesson more interesting.” The teacher felt that since CVQ students were more practical oriented, they should “bring up teaching points during practical, from teaching and assessments”. One teacher from T&T suggested that students should assess teachers at the end of each unit/module which will give an indication of whether there was a need for repetition of lessons.

Use of own resources. Teachers from two countries felt that using their own resources to assist in delivery was acceptable. One teacher from Jamaica indicated that he was willing to use his personal resources, for example, learner guides for students’ use in class. A teacher from T&T also condoned the use of “my own resources from home”.

Differentiated learning. Teachers from Grenada and Jamaica supported engaging in group activities that enhanced student learning based on individual abilities. One teacher from Grenada remarked “traditionally, we have been using one method. This method [CBET] will promote differentiated learning to meet different needs”, while

another noted “based on how they respond to a lesson, I can then make changes to plan to suit them as they are all different”.

Literacy and numeracy challenges. Teachers from two countries made reference to delivering the CVQ as burdensome given the low levels of literacy and numeracy of the students they were entrusted with. One teacher from Barbados explained “levels of literacy and numeracy in students are low. Regardless of which delivery approach, because the child lacks numeracy and literacy skills, you have to be a miracle worker to have success”. One teacher from Grenada felt that delivering the CVQ will be “burdensome because of the amount of writing and the child may not be up to par”.

Unique emergent themes specific to countries. Unfair treatment/compensation for teachers was noted as one such unique theme. Not all perceptions were positively influenced as some teachers from Grenada openly expressed their dissatisfaction about additional work without commensurate compensation. One Grenadian teacher expounded, “Teachers are being unfairly treated. They should be compensated extra for what they do. The CVQ is different, it calls for more time and giving individual attention to students. You have to teach additional hours”.

Another emerging unique theme was that of overcoming the challenges. One Dominican teacher described persistence in overcoming challenges, and their passion associated with the implementation of the CVQ. She related that at the beginning of the implementation process it was not “smooth sailing” and that they had “grown through the year”. The teacher opined that it was “very difficult at first” and professed, “We love what we do...have a passion for it”. Another teacher added “A lot of it has to do with the fact that you love what you do...already thinking about what the students will be doing next”. The teachers also expressed willingness to take steps to improve delivery based on feedback from external verifiers. One teacher indicated that when they receive External Verification reports they examine gaps to “see where we need to improve”.

The other teacher explained “there is some portfolio building we need to brush up on”, and also reiterated the need to review feedback on assessment based on areas of weakness with the intention of improving delivery and documentation during summer classes.

T&T teachers reported that they were required to work additional hours to complete sessions since the time allocated for the delivery of the CVQ on the timetable was reduced. “In my area, six periods [are] sufficient but when it is more time consuming, especially with foods, sometimes teachers remain until three to four o’clock in order to have them ready for the external verification session, time is too short”.

Research question 1 d.(ii). How do select administrators’ perceptions about the CVQ influence, if at all, the delivery of the CVQ level 1?

Table 23

Summary of Themes by Country of How Principals’/ Administrators’ Perceptions About the CVQ Influence Delivery

Country	Field experiences	Availability of resources	Regular meetings	Adjustment of timetable	Work extra hours	Clinical supervision	Other themes
Barbados	√	√	√	×	×	√	Collaboration
Dominica	×	√	×	√	√	×	No notable theme
Grenada	×	√	√	×	×	√	No notable theme
Jamaica	×	×	√	√	×	×	Supports additional coaching
T&T	×	√	√	√	√	√	Provides mentorship
TCI	√	√	×	×	×	×	Encourages team teaching

Note. √ = Theme present and × = Theme not present.

As depicted in Table 23, six major and four minor themes were generated from 24 interview sessions conducted with principals/administrators in the six CARICOM

states of the study on how administrators' perceptions about the CVQ influenced the delivery of the CVQ level 1. The analysis was guided by these themes.

Field experiences. An administrator from Barbados spoke about the value of field experiences by linking with the community. The administrator indicated the need to "link with the community to offer training and work-related experiences for students". Another administrator from the TCI expressed willingness to design a work experience programme for CVQ students.

Ensure availability of resources. Principals/administrators from five countries assured of their efforts to make resources available for the delivery of the CVQ. One administrator from Barbados expressed that efforts should be made to ensure that staff was fully equipped and well-resourced by indicating "as we grow, and bring CVQ on board ... [there is a need to] acquire a lot of the tools, materials and apparatus that is required to deliver the CVQ". Another administrator from Dominica, in addition to accepting her role of assuring that resources were made available for delivery of the CVQ and sourcing PPE donations for students, was also amenable to the use of her personal vehicle as a resource for the delivery of the CVQ in Auto Mechanics. Grenadian administrators also accepted their role in ensuring the acquisition of resources for the delivery of the CVQ. One administrator expressed the need to ensure that "teachers get things without hesitation", while another concurred that much effort should be made to ensure that resources were provided. Another administrator spoke about the value of seeking financial support from affiliates such as Faith-based organisations. Administrators from TCI also felt that efforts should be made to acquire the necessary resources for delivery of the CVQ by seeking donations from corporate sponsors. One Trinidadian administrator was in support of vireing funds acquired for other subject areas to resource the delivery of the CVQ.

Regular meetings. Administrators from four of the six countries spoke about the value of hosting regular meetings regarding the delivery of the CVQ with their staff and Ministry personnel. One administrator from Barbados supported the hosting of regular meetings with Education officers from the Ministry responsible for CVQ implementation as well as CVQ coordinators at the school, while another ascribed to an open-door policy. A Grenadian administrator emphasised the need to host regular staff meetings where teachers should be encouraged to work with students. Two

Jamaican administrators made reference to the need to convene meetings and planning sessions to address issues that may arise.

Administrators in T&T endorsed the hosting of frequent meetings with staff. One administrator highlighted the need to liaise with the HOD about lesson planning and delivery and directly with the CVQ teacher if required. Others advocated for highlighting the importance of the CVQ at departmental and staff meetings and drilling down on specific aspects of delivery to ensure that an individualised approach is employed.

Adjustment of timetable. Administrators from three countries suggested adjustment of the timetable to accommodate the delivery of the CVQ. A Dominican administrator felt that the timetable should be amended to allow CVQ teachers extended periods during the school day and after school hours. One administrator from Grenada expressed willingness to “timetable the CVQ as a subject”, while another suggested “taking time off from other periods to make sure he [the teacher] gets time for the CVQ”. Administrators from Jamaica and T&T highlighted the need to increase the number of periods for the delivery of the CVQ. One Trinidadian administrator was amenable to dedicating one specific day on the timetable for the delivery of the CVQ, while another suggested developing “a 6-day timetable so that if a teacher is absent, they [students] can catch up”.

Work extra hours. School administrators from two countries expressed willingness to allow CVQ staff to work extra hours to ensure completion of content for the CVQ. One administrator from Dominica expressed an inclination to host weekend camps at the school to complete activities for the CVQ which she described as an expensive exercise. This was also expressed by an administrator from T&T who voiced commitment to work with CVQ students even on weekends.

Clinical supervision. Clinical supervision also emerged as a theme from four of the six countries. One Barbadian administrator felt that the CVQ required that they visit the classroom during CVQ sessions to work with the teachers. Another advocated for regular checks on teachers’ schemes of work against the students’ portfolio. However, this was not supported by all administrators in Barbados as one concurred that although delivery should be monitored, he may not be able to “sit in the class as I would like to”. In Grenada, one administrator felt that since “teachers

have been given a template and format”, it was the HOD’s responsibility to “check different plans once per week”. This was not supported by administrators from T&T who encouraged clinical supervision, as one felt that they should “check every now and again to see how students are progressing using correct forms, ensure that students get enough practice”. The administrator also promoted the use of a “Day Book” which teachers should fill out daily what is being taught” which should be used as a gauge to track the progress of CVQ delivery. A Jamaican administrator suggested introducing teachers to the 5E approach, group planning and “pooling for lesson planning” as viable strategies for clinical supervision of CVQ teachers.

Unique emergent themes specific to countries - Collaboration. Administrators from Barbados suggested collaboration with other institutions to ensure efficient delivery of the CVQ. The administrator felt that there should be “plenty of collaboration and information sharing with other schools”, while another suggested that “we bounce areas off each other-we collaborate to try to find which is the best way forward for everyone”.

Encourage team teaching. An administrator from the TCI indicated that teachers should be encouraged and supported in engaging in team teaching along with the resident reading specialist.

Provide mentorship. One principal in T&T expressed willingness to mentor CVQ teachers. He indicated that “Notwithstanding some of teachers’ attitudes”, there was a need to persuade and encourage teachers in working towards the delivery of the CVQ programme”.

Additional coaching for students. Principals/administrators from Jamaica suggested additional coaching or assistance for weaker students so that they can successfully complete their assessments.

Research question 1 e.(i). How do select teachers’ perceptions about the CVQ influence, if at all, the assessment of the CVQ level 1?

Table 24

Summary of Themes by Country of Teachers' Perceptions of the CVQ Level 1 and Influence on Assessment

Country	Impetus for teachers to remain current	Frequent/ continuous assessments conducted	Assessments very demanding	Frequent communication with assessors and internal verifiers	Instil confidence in candidates	Other themes
Barbados	√	×	√	×	×	No notable responses
Dominica	√	√	√	×	√	No notable response
Grenada	√	√	√	×	√	Time constraints Ensure valid assessments
Jamaica	×	√	√	×	×	No notable response
T&T	√	√	×	√	×	Working as a team
TCI	×	×	×	√	×	No notable response

Note. √ = Theme present and × = Theme not present.

As depicted in Table 24, five major and two minor themes were generated from 19 interview sessions conducted with teachers in the six CARICOM States of the study. The analysis was guided by these themes.

Impetus for teachers to remain current. Interestingly, this theme emerged from Barbados, Grenada and T&T. One teacher from Barbados felt that the conduct of CBA can show “where I was lacking and where I can improve”, while one from T&T posited, “it allows you to be better prepared as a teacher, you get more updated in what you have to prepare”. Another teacher from Grenada indicated that maintaining currency in the skill area assisted in identifying gaps in students by indicating “it helps you to remain current. It will not take a whole term to realise that the students don’t know the basics”.

Frequent/continuous assessments. Teachers from three countries concurred that the guideline regarding the conduct of continuous assessments for the CVQ should be adhered to. One Dominican teacher suggested facilitating continuous practice, assessment and feedback to ensure that the students achieve competence. She indicated “You need continuous assessment...sometimes students do not get it right the first time...feedback and continuous assessment are important”. Several Grenadian teachers maintained that continuous assessments should be conducted. One indicated that “It is a good thing” because students may not perform well when summative assessments were administered. The teacher affirmed that continuous assessment can “help to build in particular areas, it can meet a person’s needs.” Another reported that it was a “good thing to do assessments all the time with them”. The teacher opined that continuous assessment is the best approach and theorised that it ensured validity in assessments by indicating “if they [students] learnt a particular thing ‘A’ you only assess them on ‘A’”. The teacher also suggested that they “can cluster units to assess” and evaluate what students have learnt because students “get better results when this [assessment] is done continuously”. Another teacher recommended that more evidence should be collected in an effort to encourage mastery of skills among students. One teacher from T&T also commented about continuous assessment being “manageable” and trying to give students “too much” assessment.

Assessments are very demanding. This theme emerged from three of the six countries as several challenges in conducting assessments were identified. One Dominican teacher lamented that assessments “can be very demanding”. Another teacher from Jamaica indicated that “assessment is a challenge” as the standard [occupational standard]) was not consistent. Another teacher from Barbados admitted that assessments require “too much paperwork”, however he suggested the establishment of “a great support system” to address this challenge. One Grenadian teacher suggested to address the challenge of lack of resources for assessments, principals should send correspondence to parents requesting that they fund the cost of the assessments, however, another felt that conducting assessments was resource intensive and that “It is costly to get them [students] up to standard”. He concluded that they “will be wasting resources trying to get them [students] up to standard”.

Frequent communication with assessors and verifiers. Teachers from two countries made reference to the need for frequent communication with peers and internal verifiers regarding the conduct of assessments. For example, teachers from the TCI suggested frequent communication with other assessors and verifiers.

Instil confidence in candidates. Teachers from Grenada and Dominica felt that efforts should be made to build self confidence in students when conducting assessments by reinforcing and encouraging students since some of them lack self-confidence.

Unique emergent themes specific to countries. Only one teacher from Grenada and some from T&T presented another view on assessment. The sole Grenadian teacher held the view that “it is a good thing to do assessments all the time with them, sometimes the challenge is time”. On the other hand, some teachers from T&T extolled, “teachers working as a team” as virtuous in the assessment process.

Research question 1 e.(ii). How do select administrators’ perceptions about the CVQ influence, if at all, the assessment of the CVQ level 1?

Table 25

Summary of Themes by Country of How Principals’/Administrators’ Perceptions of the CVQ Influence Assessment

Country	Provision of resources	Collaboration with other institutions	Repetition of assessments	Development of Internal assessment	Facility Upgrades	Working extended hours	Other themes
Barbados	√	√	×	×	√	√	Standardisation sessions
Dominica	×	×	×	×	×	×	Adherence to assessment guidelines
Grenada	√	×	√	×	×	√	Self-sufficient TVET School model
Jamaica	√	√	√	×	×	×	No notable responses

T&T	√	√	×	√	×	×	Clinical supervision of assessments
TCI	√	×	√	√	√	×	No notable responses

Note. √ = Theme present and × = Theme not present.

As depicted in Table 25, six major and four minor themes were generated from 24 interview sessions conducted with principals/administrators in the six CARICOM states of the study on how their perceptions about the CVQ influenced the assessment of the CVQ level 1. The analysis was guided by these themes.

Provision of resources. Principals/administrators from four countries affirmed the need to ensure the provision of the relevant resources for the assessment of CVQ level 1. An administrator from Barbados related that planning for the conduct of assessments should be done with relevant staff after which he should ensure that “all things are put in place”. One Grenadian principal indicated that although resources for the conduct of assessments were costly and very challenging to acquire, they should try as far as possible to do so. One administrator from Jamaica expanded on the need for them to make attempts to acquire resources to conduct continuous assessment, “We have to be creative, sometimes it is a challenge, some of the students are from a low economic background”. Administrators from TCI also supported efforts on their part in acquiring the necessary resources for the assessment of the CVQ. One administrator suggested seeking donations from the private sector and corporate sponsors to outfit CVQ workshops and laboratories. Another administrator suggested collaborative efforts with teachers to support the portfolio building process “to get the children the support where that is concerned and giving them the resources that they need to be able to print material”.

Collaboration with other institutions. Administrators from three out of the six countries recommended collaboration with other institutions and building good relationships to ensure efficient assessment of the CVQ. One administrator from Barbados spoke about the need for “plenty of collaboration and information sharing with other schools”. Others suggested using the facilities of other schools and private institutions to ensure the conduct of assessments where equipment were lacking an administrator from a school in Jamaica suggested the use of WhatsApp, as a

communication tool to collaborate with teachers from other schools. She also supported dialogue with construction workers for guidance on assessments.

Repetition of assessments. Principals from three countries explained that relevant support was required to allow for repetition of assessments where and when necessary. A Grenadian principal suggested continuous assessment at least once per month and the use of a variety of assessment strategies. The principal also felt that teachers should be encouraged “to give students another chance”. This was echoed by a principal from Jamaica who supported the repetition of student assessment “until they satisfy requirements”. A principal from the TCI opined that “the CBET approach offers an opportunity for the child to be assessed and reassessed,” and that “the teacher is still supposed to give the child an opportunity... to be reassessed in the area”, if the standard was not met.

Internal assessment policies/strategies. Administrators from two countries advocated for the inclusion of assessment for the CVQ in the school’s plans and policies. One administrator from TCI related that an Internal Assessment policy should be created to guide continuous assessment of the CVQ. Another administrator from T&T recommended the inclusion of CVQ assessment activities into the strategic plan for the school.

Working extended hours. School administrators from two countries supported the CVQ staff working extra hours to ensure completion of assessment for the CVQ. One principal from Grenada admitted that gauging the adequacy and sufficiency of assessments was not difficult but required a lot of time which can result in working extended hours. Another principal from Barbados expressed willingness on her part and that of the teacher to stay on after normal school hours to conduct assessments and also during the Easter vacation.

Facility upgrades and standardisation sessions. Unlike others, only one principal seemed concerned with facility upgrades to facilitate CVQ assessment. This was the principal from TCI highlighted the need for “doing some upgrades” to ensure that all CVQ requirements were in place.

Similarly, from the six CARICOM states in the study, only one principal from Barbados spoke about facilitating standardisation sessions for assessment.

Adherence to assessment guidelines. One principal from Dominica endorsed adherence to the established guidelines for assessment of the CVQ. The principal suggested that the requisite forms and manual should be followed to assure quality.

Self-sufficient TVET School model. One principal from Grenada reported on the school's self-sufficiency in support of the TVET programme. When questioned about the adequacy of resources for conducting continuous assessments, she supported the sale of farm produce and reinvestment of the funds realised to resource assessment activities for the CVQ.

Clinical supervision of assessments. From the six countries and many schools in the study only one principal reported clinical supervision as significant in the assessment process. A principal from T&T explained that guidance and clinical supervision should be provided for teachers when conducting assessments for the CVQ. The principal felt that teachers should start conducting CVQ assessments from the beginning of the term and supported the sharing of pertinent documents such as soft copies of assessment packages for teachers' modification and use.

Summary - Research Question 1

Question 1 investigated stakeholders' perceptions about the CVQ level 1 in secondary schools. Qualitative data were obtained from students, teachers and principals/administrators in six countries that have implemented the CVQ level 1. In particular, the question focused on select students' perception of pursuing the CVQ level 1 and how select teachers and select principals/administrators perceive students' pursuit of the CVQ level 1. Factors that influenced select students' decision to pursue the CVQ level 1 were also investigated from the perspective of select students and select teachers. Question one also sought to determine how select teachers' and select administrators' perceptions about the CVQ influence, if at all, delivery and assessment of CVQ level 1.

The themes gleaned from the data revealed students' varying perceptions about the CVQ. Most students reported that the CVQ was perceived as a good career option. Those students also identified the acquisition of skills, enhanced marketability, certification, entrepreneurial opportunities, supporting hobbies and DIY activities as perceived benefits that can be derived from the pursuit of CVQ level 1 at the secondary school level. Further, students from Grenada in particular opined that the

CVQ will raise standards of work in society, while those from Barbados and TCI perceived the CVQ as preparation for further education and providing a level of flexibility in obtaining certification. However, some negative perceptions also surfaced. The evidence suggested that some students from a few countries were unclear about the relationship between the CVQ and their future career paths. For them, the CVQ was perceived as beneficial for students who are not academically oriented. Students from four CARICOM states perceived the CVQ disdainfully as a backup, while notable perceptions from Jamaica and Dominica indicated that the CVQ provided stress relief and relief from schoolwork respectively.

Teachers' perceptions of students' pursuit of the CVQ level 1 revealed that overall, teachers from all six CARICOM states were unanimous in their opinion that the students who pursue the CVQ level 1 in secondary schools can gain access to good careers, acquire pertinent skills and benefit from increased marketability. However, there were differences among some teachers from the identified countries. For example, while teachers from Barbados, Grenada and T&T felt that students can benefit from the CVQ qualifications and entrepreneurial opportunities, this was not highlighted by teachers from Dominica and the TCI and to a lesser extent teachers from Jamaica. Further, teachers from most of the CARICOM States in the study except those from Barbados and TCI held the view that the pursuit of CVQ was better suited for students who were not academically inclined. Unique themes also emanated from specific countries. Some teachers from Jamaica perceived the CVQ as enhancing mobility and career progression while others from T&T and Grenada felt that the CVQ can assist in increasing students' self-esteem and assist in boosting the economy, respectively. Although teachers from the TCI identified perceived benefits of pursuing the CVQ, some were of the view that they were not fully ready for implementation.

Principals/administrators perceived students' pursuit of CVQ level 1 as a good career option, the opportunity for students to acquire skills, enhance their portability and marketability, obtain certification and build entrepreneurial skills. In addition, those from TCI regarded the CVQ as catering to kinesthetic learners. Interestingly, principals/administrators from both Barbados and Grenada felt that the CVQ was a better choice for students than CSEC subjects, with one from Barbados asserting that the CVQ carried more weight than other subjects. Principals/administrators from

Grenada, Jamaica, TCI and T&T perceived the CVQ as a subject for students who were not academically inclined. However, it must be noted that not all Jamaican principals/administrators shared this view as one felt that the CVQ will meet the demands of the 21st century worker. While principals/administrators from T&T felt that the CVQ will increase the socio-economic situation of the country, others in Grenada and Dominica made reference to the inadequate level of readiness and not being able to afford its implementation, respectively.

A number of factors such as teachers, parents, peers and relatives influenced students' decision to pursue the CVQ level 1. There was unanimous agreement from students in all schools from all countries that teachers were their greatest influencers. While following the same career path of parents was proffered as the reason for them being influencers across five countries, this was not so in Jamaica as farming in particular was identified as a career that was not sanctioned by parents who were farmers. Students from Barbados, Grenada, Jamaica and T&T seemed au courant with positive job prospects after pursuing the CVQ which they identified as influencers, while those from Grenada and T&T identified entrepreneurial pursuits CVQ certification offered. Interestingly, only students from Grenada and T&T identified career aspiration as an influencer, in addition, reference was made to the intervention of guidance counsellors only by students from T&T. Students from Jamaica and T&T felt that the CVQ will allow them to be unique and creative while those in Barbados acknowledged the mobility/portability and international acceptance the CVQ afforded. Some students from the TCI were mandated to pursue the CVQ. However, while some were convinced that the pursuit of the CVQ provided better opportunities due to their perceived limitations, others expressed discontent about not being given the opportunity to pursue other subjects. Students from Dominica admitted that their dislike for reading influenced their decision to pursue the CVQ, while some from Grenada believed that the pursuit of the CVQ can assist in stemming male attrition which in turn will contribute to making a difference in society.

Many of the factors influencing students' pursuit of CVQ level 1 as perceived by teachers were similar to those highlighted by students. These include teachers, parents, and peers. In addition, with the exception of Dominica, teachers from five countries identified administrators as positive as well as negative influencers.

Barbadian teachers felt that administrators shunned offering the CVQ since CSEC results was the benchmark for good performance of secondary schools, while Grenadian teachers alluded to administrators' lack of knowledge about the CVQ. There were mixed views from teachers regarding influencers of the decision to pursue the CVQ as some considered it as an option for students who were not academically inclined while others opined that all students should be given an opportunity to pursue CVQs. In some instances, there was concurrence from both teachers and students of the mandate given to students to pursue the CVQ level 1. A number of negative influencers also came to the fore. Teachers in Dominica, Jamaica and T&T felt that erroneous information about the CVQ was circulated which resulted in students' lack of interest in pursuing the CVQ. In addition, teachers from Grenada and Jamaica cited the unavailability of funds as a deterrent due to the significant amount of resources required by students to pursue the CVQ. Negative societal perceptions about workers in particular skills-based fields were highlighted by teachers in Barbados as one of the reasons why a student may not choose to pursue the CVQ. However, Dominican teachers theorised that the success of CVQ graduates also influenced students to pursue the CVQ.

Interviews were conducted with select teachers to glean how their perceptions about the CVQ influence, if at all the delivery of the CVQ level 1. Teachers from Barbados, Grenada, Jamaica and T&T informed of the use of teaching and learning strategies such as individualised/self-paced learning, differentiated learning and repetition of lessons when required. Those from Dominica, Jamaica and T&T also sanctioned the use of reflective practice and were amenable to addressing weaknesses identified in students and the use of their personal resources in delivering instruction. Teachers from specific countries, for example Barbados felt that students should be prepared for the pursuit of CVQs in the lower forms, while others from Dominica, TCI and T&T spoke about the persistence of teachers in overcoming identified challenges, adjustment of the timetable and working extra hours to accommodate the delivery of the CVQ. However, not all responses of teachers were positive as some Grenadian teachers felt that they were being unfairly treated because of the additional requirements for the delivery of the CVQ without commensurate compensation. In addition, teachers from Barbados and Grenada implied that delivering the CVQ was

burdensome given the low levels of literacy and numeracy of the students they were entrusted with.

The evidence obtained from select principals/administrators about whether their perceptions about the CVQ influenced the delivery of the CVQ level 1 suggested either their direct involvement in the delivery of the CVQ or their efforts to enable the delivery of the CVQ. Principals/administrators from Barbados and TCI informed that they were directly involved in organising field experiences for CVQ students, in addition, those from Barbados highlighted collaboration with other pertinent institutions to ensure efficient delivery of the CVQ. Those from all countries with the exception of Jamaica confirmed that they ensured resources were available for delivery of the CVQ level 1. Regular meetings with teachers/assessors and verifiers were also convened by principals/administrators from Jamaica, Barbados, Grenada and T&T, with the latter also encouraging team teaching among general staff to support the delivery of the CVQ. Those from Dominica and T&T made adjustments to the school's timetable to accommodate the delivery of the CVQ. Principals from Barbados, Grenada, Jamaica and T&T also engaged in the clinical supervision of CVQ instructors, with principals/administrators from T&T going a step further by mentoring instructors.

Several themes unearthed from focus group sessions conducted with teachers suggested how their perceptions about the CVQ influenced the assessment of the CVQ level 1. Teachers in Dominica, Grenada, Jamaica and T&T supported the requirement for adherence to the conduct of frequent and continuous assessments. Those from Grenada affirmed that validity of the assessments conducted must be assured notwithstanding time constraints. Teachers from Barbados, Grenada and T&T held the view that their roles as assessors will provide the impetus for them to remain current. Teachers from TCI and T&T supported frequent communication with assessors and verifiers, however, those from Barbados, Dominica, Grenada and Jamaica felt that assessment for the CVQ was very demanding. Teachers from Grenada and Dominica recommended that students should be encouraged, and lessons reinforced since some of them lacked self-confidence. Those from T&T also supported teachers working as a team when conducting assessments.

The investigation of how principals'/administrators' perceptions of the CVQ influenced assessment pointed to their overall support of the conduct of assessments for the CVQ. Principals/administrators from all countries with the exception of Dominica affirmed that provision of resources was critical, with those from Grenada specifically advocating for the implementation of the Self-sufficient TVET School Model. While those in Barbados and Jamaica suggested collaboration with other institutions to ensure access to appropriate facilities for the conduct of assessments, principals/administrators from Barbados and TCI recommended facility upgrades to accommodate CVQ assessments. Principals/administrators from Grenada, Jamaica and TCI pledged their support for the repetition of assessments. Those from TCI and T&T spoke of the value of developing internal assessment policies and strategies to support the assessment of the CVQ level 1. Principals/administrators from Barbados and Grenada were amenable to working extended hours to accommodate the conduct of assessment for the CVQ, with those in Barbados promoting the implementation of standardisation sessions. Principals/administrators from Dominica felt that the requisite assessment guidelines should be adhered to, while those from T&T felt that there should be clinical supervision of assessments.

Research Question 2

Research question 2 investigated stakeholders' experiences in the delivery and assessment of the CVQ level 1 using the CBET approach. Qualitative data was obtained from students, teachers, internal verifiers, principals/administrators in six countries that have implemented CVQ level 1 in secondary schools. Before presenting the analysis for this research question, it is necessary to provide context for the delivery and assessment of the CVQ using the CBET approach.

The CVQ system follows the philosophy of CBET, which, as its name suggests, hinges learning on the individual's ability to carry out well-defined activities. CBET is based on outcomes and pre-determined standards on what students can do. Curriculum design for CBET instruction focuses on the description of learner performance rather than on topic names and number of hours, and learner performance is described via behavioural or learning objectives.

In a traditional educational delivery system, the unit of progression is time, and it is teacher-centred. In a CBET system, the unit of progression is mastery of specific

knowledge and skills, and it is learner or participant centred. CBET has several characteristics. Curriculum is described mainly by terminal objectives, which are in turn broken down into enabling objectives, and close attention is paid to ensure that the objectives, instruction and tests correspond to content and level of performance referred to as curriculum alignment. Testing is also important in CBET. Tests must correspond to the objectives in content and levels of learning and must be valid and reliable. In CBET, learners are told what is required of them. In a CBET system, training is based upon the learner's ability to demonstrate mastery of skills performed under certain conditions, to specific standards (Foshay, 1990).

The CBET approach has been employed for the delivery and assessment of the CVQ. A great deal of emphasis is placed on assessment, as evidenced by the mandatory quality assurance requirements as prescribed by the Caribbean Association of National Training Authorities (CANTA). Assessors must be trained and certified before claims can be made for CVQ awards. The assessment of students must also be internally verified by trained and certified internal verifiers to ensure quality and consistency of assessments. Mastery-model instruction complements CBET, and it involves considerable individualisation and self-pacing. Mastery-model instruction is based on three principles; learners begin instruction in a given topic only when they have fully mastered all prerequisites; learners progress to the next segment only when they have demonstrated mastery and learners stay in instruction as long as they need to master the objectives.

The CBET approach is an effective method of delivery for mastery of skills and assessment in TVET. It measures skills and performance/competencies. The effectiveness of a TVET System, or the extent to which training outputs correspond, especially in terms of quality, to what is intended to produce, is ensured through comprehensive and continuous instructor/teacher training and curricula development, and through the adaptation of a system that focuses on exposing trainees/students to much more exposure in the relevant industry rather than chalk and talk lectures. The successful result of this approach is realised when the candidates are assessed and deemed competent.

CXC, as the certifying body for the CVQ level 1 in secondary schools in the Region has documented the requirements for successful delivery and assessment of

the CVQ via the CBET approach. These requirements, referred to as the foundations of good practice, detail the tenets of CBET and CVQ in relation to students and teachers/assessors that administrators should be aware of.

Teachers/assessors are required to:

- have access to the regional occupational standards (ROS) and the Facility Standards
- have access to all instructional delivery material, space, tools and equipment
- be qualified in skill area and have the requisite industry experience
- be certified in CBET/CBA and internal quality assurance methodologies
- use a variety of teaching/instructional methods and aids
- operate in an environment that simulate workplace and work experience opportunities
- provide continuous and detailed feedback to students on their progress

Student requirements:

- Students' training programmes are individualised and self-paced
- Students' records are maintained and reflect their progress
- Students' rating reflects the level of competency achieved
- Students must be informed about criteria and attitudes important to the occupation
- Students are allowed to repeat learning activities until competence is achieved.
- Programme completion is based on satisfactory achievement of all specified competencies.
- There must be industries in the local area with which the school can arrange to expose teachers and students to current industry standards (CXC, 2015).

Implementation of Competency-Based Assessment (CBA) requires the maintenance of quality via credible assessment procedures. Given the modular nature of CBET, it is imperative that accurate records are maintained to ensure credibility, transparency and confidence in the learner and the overall programme. Learners must have access to their records. Quality assurance for the CVQ also includes internal

verification of assessment procedures and results. This ensures that the quality of the output is consistent and in keeping with the established quality assurance criteria.

Internal verification, which is part of the overall process of assessment verification to ensure quality and consistency of delivery and assessment, is managed by the secondary schools implementing the CVQ level 1. Internal Verifiers (IVs) act as the school's quality assurance agent. They must have a technical understanding of the occupational area for which they are verifying assessments and are required to be trained and certified to perform specific roles within the CVQ system.

Research Question 2 elicited responses from students, teachers/assessors, internal verifiers and principals/administrators based on the requirements of CXC and CANTA.

Research Question 2 a.(i). What are the experiences of select students in the delivery of the CVQ using the CBET approach?

Table 26

Summary of Themes by Country of Students' Experiences in the Delivery of the CVQ Using the CBET Approach

Country	Lack of equipment	Insufficient Time	Building soft skills	Internships/ OJT	Experiential	Research oriented	Other themes
Barbados	×	×	√	√	√	√	Simulated activities
Dominica	×	√	×	√	×	×	Insufficient explanations
Grenada	√	√	√	×	×	×	Adherence to routine
Jamaica	√	√	√	×	×	×	Competitiveness
T&T	√	√	√	√	√	√	Stress reliever
TCI	×	√	√	×	√	×	Too much writing

Note. √ = Theme present and × = Theme not present.

As depicted in Table 26, six major and six minor themes were generated from twenty-three focus group sessions conducted with students in the six CARICOM states of the study. The analysis was guided by these themes while paying particular attention to the delivery of the curriculum using the CBET approach.

Inadequate equipment. The practical nature of the delivery of CVQ in a CBET teaching and learning environment requires the provision of appropriate and adequate Personal Protective Equipment (PPE) and other necessary tools for students. However, this was not always the case in some of the countries. For instance, students from three of the six countries revealed that the delivery of the CVQ curriculum was constrained by the unavailability of adequate Personal Protective Equipment (PPE) as well as tools and machinery for class sessions. Grenadian students divulged that they lacked sufficient but necessary PPE such as masks, coveralls, helmets and gloves. In T&T, students made mention of requiring “better machines” and described some of the equipment as “old and mash up”. Students from Jamaica also alluded to the lack of tools and equipment as well as the fact that they were expensive to acquire.

Insufficient time. Unlike the traditional approach, the delivery of the CVQ via CBET requires a flexible time frame given that learning is self-paced. The collective experiences of students from five countries highlighted challenges surrounding insufficient time allocated for the delivery of the CVQ. Grenadian, Dominican and Jamaican students unanimously reported that the insufficient time allocated for CVQ classes frustrated the delivery of the CVQ curriculum. One Jamaican student described the experience as “time consuming”. The protracted/extensive time required to pursue the CVQ was also expressed by students from T&T who also spoke of “not enough periods” being allocated. Although TCI students did not make direct reference to insufficient time, they proffered that the “programme should start earlier so that you have more time”.

Building soft skills. The primary depiction of this theme emanated from students from five countries who indicated that they acquired inter and intrapersonal as well as other employability skills while pursuing the CVQ. The delivery of the CVQ requires that students must achieve generic competencies that underlie all work/skills. In addition to team building skills honed in a CBET teaching/learning environment, one Barbadian student attributed the pursuit of the CVQ as instrumental in acquiring the

ability to delegate. Jamaican students reported that special emphasis placed on the delivery of the CVQ curriculum helped to inculcate better time management skills and develop appropriate problem-solving attributes associated with working in groups. Although the challenges associated with group work were also expressed by students from T&T, a number of them reported that the ways in which the CVQ was delivered assisted them to “work in groups with different personalities” and helping to “become a better person”. Further, one student indicated that the subject teaches “how you dress” and “basic understanding of what people lack in society today”. Grenadian students made mention of the CVQ teaching “how to deal with life lessons” and provided specific examples such as teamwork, safety, discipline and how to respect each other’s opinions. Students in TCI drew attention to the teaching approaches which emphasised the need to persevere especially when the situation is “challenging sometimes” and their “frustration to make it right sometimes”.

Internships/On-the-job Training (OJT). In the CVQ system, students must be exposed to current industry standards via workplace and work experience opportunities. Students from three countries described their invaluable real-world experiences through internships and OJT while pursuing the CVQ. One student from Barbados related “I had an experience with internship last summer, and how you think things go on is not how they actually are...no way near”. Dominican as well as Trinidadian students described positive experiences from the workplace. A Trinidadian summed it up by verbalising, “Overall, CVQ is a great experience for young people to get experience with the world of work and what it has out there”, while another indicated that the “CVQ gives you a better understanding of the work environment”.

Experiential learning. Experiential learning is one of the fundamental principles of the CBET approach. By engaging students in hands-on experiences and reflections, they are better able to connect theories and knowledge learned in the classroom to real world situations. Students from three countries referenced their positive experiences with experiential learning in the delivery of the CVQ curriculum. One Barbadian surmised, “I think the class is very valuable because it provides people with free way to get hands-on experience in the subjects you are doing. When you do hands-on, it is so different than actually reading a book”. Trinidadian students shared their

experiences in operating equipment, while those in the TCI highlighted that the CVQ “helps to build your hands-on skills” and also gave an “awesome idea of how to use power tools”.

Research oriented. The value of engaging in research activities was reported by students from two countries. Students from Barbados explained, “When you are doing CVQ you have to do research and you have to go further than they would [students pursuing other subjects], so the knowledge that you get is a good thing to have”. Similarly, students from T&T articulated the benefits of research exercises assigned, one explained that it helps you to “read more and understand what you are reading and what you are researching”.

Unique emergent themes specific to countries. The following minor but significant themes emerged from specific countries during interviews with students.

Adherence to specific routines. A Grenadian student spoke about the CVQ teaching methodology and its relationship to standard operating procedures, while another alluded to adherence to a specific routine when engaging in procedural tasks by indicating that “when you are finished, you have to clean up”.

Simulated activities. In a CVQ system, students must operate in an environment that simulates workplace and work experience opportunities. Students in Barbados referenced the value of simulated activities in the classroom. One student opined, “The CVQ gives you a small look into what the world will feel like. [I] did a role play, it was so real, got to feel what the post will be like”.

Stress-free subject. Some Trinidadian students described CVQ classes as stress free. One student affirmed, “If you [are] stressed out in any one subject, [you] can come to class...no distractions”, while another indicated “it keeps you calm”.

Competitive. While students in T&T viewed the CVQ as a stress-free subject, those in Jamaica maintained that there was too much competition which sometimes led to a “mental block”.

Inadequate clarifications. One Grenadian student opined that the teacher was not clear when delivering instruction by articulating, the “teacher don’t [sic] teach the topic clearly”. This was also expressed by a Dominican student who referred to “not enough explanations” provided by the teacher.

Too much focus on knowledge. One student from the TCI alluded to much focus on eliciting how to use tools and equipment via pen and paper activities rather than by demonstrations. The student opined that there was “too much writing, summarising how to use equipment instead of showing”.

Research Question 2 a.(ii). What are the experiences of select teachers in the delivery of the CVQ using the CBET approach?

Table 27

Summary of Themes by Countries of Teachers’ Experiences in the Delivery of the CVQ Level 1 Using the CBET Approach

Country	Insufficient time	Lack of resources/ Infrastructure	Absence of guidelines	Low levels of literacy in students	Excessive paperwork	Lack of instructional materials	Use of the CBET approach	Suitability of level	Training and development	Other Themes
Barbados	√	√	√	√	√	√	√	×	×	Instructional scaffolding
Dominica	×	√	×	×	×	√	√	×	×	No notable responses
Grenada	√	√	√	√	×	√	×	√	√	No notable responses
Jamaica	√	√	√	×	×	√	√	√	√	No notable responses
T&T	√	√		√	√	×	√	×	×	High level of absenteeism
TCI	√	√	√	×	√	×	√	√	×	No notable responses

Note. √ = Theme present and × = Theme not present.

As summarised in Table 27, nine major and two minor themes were generated from 19 interviews conducted in the six CARICOM states on teachers’ experiences in the delivery of CVQ level 1 in secondary schools. The analysis was guided by these themes.

Insufficient time to deliver the CVQ. Teachers from five out of the six countries indicated that they were not afforded adequate time to deliver the curriculum for CVQ level 1. One teacher from Barbados indicated that “time is the biggest factor, time to deliver. We need large blocks of time to finish projects”. Grenadian teachers also highlighted time as a challenge because of the number of subjects students were required to pursue, as one stated, “time is a problem, if they are only doing CVQ then the time would be sufficient”. Others also referred to insufficient time to deliver the CVQ curriculum. One teacher opined that “we should have vocational schools in Grenada where the CVQ is the main focus with more practical sessions. English and Maths should be supplementary”.

Due to time constraints, one teacher stated that it was sometimes difficult to address areas of weaknesses in the students as revealed in assessments. Another added that time constraints also made it difficult to adhere to the principles of individualised instruction. One teacher felt that the CBET approach can be effectively used for the delivery of the CVQ as it was the best approach since it “takes students from what they know to where they want to be”. However, he posited that the breadth of the curriculum required the allocation of adequate time to plan for delivery, which was not available. He indicated, “With CBET training and TVET training it is a lot of information. It is difficult to deliver lessons following these standards. I teach other subjects, Food and Nutrition and Social Studies, finding time to plan for delivery is difficult”.

Teachers in Jamaica identified inadequate time to deliver the curriculum as a challenge, especially given that they were required to deliver the CVQ simultaneously with the relevant CSEC subject. One teacher stated “Time, we do not deliver the CVQ as a subject by itself, [it is] combined with CXC [CSEC] so completing the required task is a challenge. Where things overlap, we do that, time for delivering and work exposure challenging, strategies for CBET cannot be fully implemented”. This situation was similar in T&T as one teacher expounded:

“The number of hours is a major challenge. I am the only teacher I teach OA [Office Administration] CSEC, not like they have a separate teacher, and it is a separate subject. CVQ is done when I have OA, will have to filter it in...I don't get to reach past 4 units because I have to work on SBA as well”.

Another teacher added that time constraints “poses an issue with timetabling, CVQ is ten, [I] only have six periods for CVQ”.

One teacher from TCI also alluded to time as a challenge in delivering the curriculum but explained that adjustments were made to the timetable to accommodate them. The teacher explained that they “managed to make some adjustments with that [timetable] by having the students a full day in which they can be more engaged with the practical and also deal with theory and take them out for an industrial visit”.

Adequacy of resources. Adequate materials space and equipment must be available for delivering the CVQ curriculum via the CBET approach. Teachers from all countries reported on the inadequacy of resources, inclusive of consumables, tools and equipment to deliver the CVQ curriculum. Teachers in Barbados reported on the unavailability of technology to support the delivery of the CVQ curriculum and as one stated “the whole school should be equipped with technology to help students”. The lack of technology was also identified as a challenge by Jamaican teachers. One Jamaican teacher reported, “One of the issues that I have really is having things with which to work”, which was also the situation related by teachers in Dominica and Grenada. However, one Jamaican teacher revealed that although the provision of resources by the school was delayed, most of those requisitioned were provided and efforts were made to ensure adequacy of resources by encouraging students to bring to class “whatever they can afford to get”, so that she can have “a meaningful class”.

Yet another Grenadian teacher highlighted the lack of resources, inclusive of tools and teacher resources, for example instructor guides. One teacher indicated, “We get more talk than action. They introduced the CVQ without the necessary equipment and tools, no support. We need to teach students how to get it perfect”. One teacher indicated that “The CBET approach is the way to go, but we must have up-to-date tools and equipment, we must meet industry standards, [we] must not forget resources, tools and texts need to be acquired”.

Teachers from TCI also alluded to being challenged because of a lack of resources. One teacher indicated “we do not have all the equipment that we would need, we have some but not everything that we may need”. Several teachers from T&T reported on the lack of resources to deliver the CVQ compounded by the large

class sizes by articulating that they “do not get resources” One teacher even made a suggestion that “resources should be provided by the government”.

Absence of guidelines. The expectation is that the NTAs, Ministries of Education and CXC collaborate to award the CVQ in the secondary school system. These agencies have collaborated and made arrangements in varying degrees, to guide and support secondary schools implementing the CVQ. Teachers from four of the six countries reported that insufficient guidelines were provided for implementation of the CVQ. A number of teachers from Barbados have reported the absence of supporting guidelines. One teacher indicated that there was “no guidance and support provided for the delivery of the CVQ”. Another reported that guidance and support were delayed by indicating that “it took a little while [to get guidance and support] ... have been getting lots of promises. Support is building now, feeling a little more comfortable”. A Grenadian teacher informed that requisite resources were obtained from the Ministry of Education, but no guidance regarding the delivery of instruction for the CVQ was forthcoming. He indicated that “the Ministry of Education personnel who visited promised to come and see how things are going. They have provided materials but no guidance in terms of delivery”. One Jamaican teacher indicated that “minimal guidance and support” was provided while one from TCI said “no guidance and support [provided]. I am supposed to liaise with our coordinator and vice versa...not taking place right now”.

Levels of literacy in students. This theme emerged from three out of the six countries. One Barbadian teacher expounded, “One of the major challenges when delivering the curriculum for the CVQ using the CBET approach is the type of children we have, even this CBET must have levels of literacy and numeracy and some students lack this”. Another articulated that the “CBET approach can be effectively used for the delivery of the CVQ based on the level of students, regardless of which delivery approach, because the child lacks numeracy and literacy, you have to be a miracle worker to have success”. A Grenadian teacher also commented on deficiencies regarding the abilities of CVQ students. He indicated that they lacked pertinent prerequisite competencies such as the required literacy level and the right attitude towards the CVQ. A teacher from T&T indicated that students had “issues with theory” and are “limited” because they “cannot express”.

Excessive paperwork. This theme emerged from three out of the six countries. Barbadian teachers reported on the excessive amount of paperwork, one articulated, “The paperwork process, if there could be any way of cutting down on this enormous amount of paperwork”. Another teacher opined that although “most of it is justified”, it is still quite a lot. One teacher from T&T in alluding to the amount of paperwork referred to the requirements of a CVQ syllabus by articulating “I thought that the CVQ was practically based but what I see creeping in the syllabus... asking for a lot of written things from students, the demand for paperwork is more”.

Lack of instructional materials. CVQ teachers must have access to instructional delivery material inclusive of curricula, instructor and learner guides. Teachers from four of the six countries reported that there was a lack of instructional materials for delivery of the CVQ via the CBET approach. Barbadian teachers indicated that no curricula were provided. This was supported by one teacher who said, “We are expected to develop curriculum, just given standards and told to go out and use standards and get results”. Teachers from Dominica reported that only the occupational standards were available. They have received no guides, for example instructor and learner guides. Grenadian teachers lamented the lack of teaching resources such as learner guides, curriculum and textbooks. One teacher indicated that “I foresee I will have challenges with the supply of materials and teaching resources”. Another teacher opined that a standardised curriculum was required and suggested that teachers be recruited to develop these. Another teacher suggested that “CXC should come up with a text that will help to guide the programme. More training is required by the Ministry through CXC or CXC through the Ministry”. Jamaican teachers also reported on the absence of requisite instructional materials. One indicated that the occupational standards were not consistent, while others maintained that “the school curriculum [was] not matching CVQ” and that the requisite “support materials [are] lacking”. While one spoke about not having access to learner guides, a teacher from another school revealed that learner guides were purchased from HEART Trust NTA.

Use of the CBET approach. Teachers must ascribe to the modular approach for delivery of the CVQ which allows for the continuous review and adaptation of the programme. Teachers are also required to use a variety of teaching/instructional

methods consistent with CBET. There were mixed views from teachers in five countries regarding the use of the CBET approach for delivery of the CVQ. Several Barbadian teachers described their approach to CBET. While one indicated that he was “not sure if we are using the CBET model”, another explained “I do it at their own pace, give them time to develop competency. They get project-based area/teaching, responsibilities for designing and landscaping areas. At a particular time, CBET is not used, ... [we] use the lockstep approach”. Another indicated that “the CBET approach is used to a point, nothing is 100%. There are times when classes will have to take a chalk and talk approach, some things I have to give them before I can demonstrate”. Dominican teachers also shared their approach to CBET. One referenced the CVQ in crop production to explain, “it is a whole different approach, make sure that the students can actually do the stuff”, while another explained, “some children think sewing is just practical, and theory is important. We tell them that it is a holistic programme”.

One teacher from Jamaica also described adherence to the modular approach to CBET. One expounded:

“The CBET system assists because we recognise that we have students who have different abilities and so a student for example would do the cosmetology programme at the end of the school year, they might not want to do the whole thing so they can specialise in nail care: they can do make up artistry they can have a little niche that they specialise in instead of doing the whole thing because we have to take their abilities into consideration”.

Another referred to the practical nature of CBET by indicating “For CBET, it requires a lot of practical activities for me to deliver my task in an acceptable manner”. A teacher from TCI maintained that “[with] the CBET approach, each individual gets 150% attention from instructors. If in doubt, teacher can correct as problems present themselves, not like regular class”. Another teacher endorsed the statements from the teacher and added that “for this area/region [TCI], it is one of the best approaches right now”.

Teachers from T&T referred to the challenges associated with delivering the CVQ via the CBET approach. One teacher explained “at the end of the day, it is not at their own pace, [we] have to push them. We have limited time to cover the work,

we go at their own pace but cannot go back to a unit with them”. Another teacher confessed that he did “not know what is CBET”.

Suitability of level. Teachers from three countries opined that the requirements for CVQ level 1 was set too high. A teacher from Jamaica referred to the CVQ curriculum as “heavy”. Another from the TCI opined that the biggest challenge in delivering the curriculum was the level. He indicated that “it is so above the level of the children, the terminology and the level at which it is a high standard and the students here at school find it difficult to grasp”. The teacher was very hesitant to provide additional explanations. Grenadian teachers also spoke about the relevance of the CVQ curriculum. One teacher opined “Some [occupational] areas not so realistic with current situation in the Caribbean. Makes it unrealistic for students. We need a protocol. Create more duties for teachers, it is too broad based”. Another teacher added that the occupational standards should be revised to ensure effective delivery in the occupational area.

Training and development for teachers. One of the quality assurance requirements for the CVQ is that teachers must be certified in CBET and internal quality assurance methodologies. Teachers from two countries made reference to training and upgrading for efficient delivery of the CVQ curriculum. A Grenadian teacher disclosed that specific training was required such as “Assessor training, delivery training, lesson planning, in-service training” and that he was trained as an assessor but not certified. Another teacher identified the lack of industry exposure which limited their ability to guide the students. The teacher remarked, “Teachers lack exposure to industry to be able to guide the students. Teachers should have been exposed to training videos etc., so that they can see exactly how the CVQ is implemented. We can do study tours before”. Another teacher added, “Also need to get industry meaningfully involved and even in advertising stage, they have to be involved. Policy makers should award incentives and internships”. Another suggestion made was “There should be an organised drive – the Ministry in collaboration with the private sector ... internship with industry”. Regarding professional development workshops for teachers, another teacher revealed that he completed Instructor and Assessor Training. He added that information was sought from the NTA if there were issues. Teachers from Jamaica indicated that they were

exposed to training in industry before the CVQ programme was implemented. One teacher from Jamaica spoke about the organisation of seminars for teachers by principals and the implementation of training for teachers.

Unique emergent themes specific to countries. Data from the interviews concerning the delivery of the CVQ curriculum using the CBET approach also unearthed some unique themes from different countries that were only mentioned by teachers from single countries. These themes are discussed below.

Instructional scaffolding. Scaffolded instruction can be used to achieve the characteristics of CBET. Teachers from Barbados implied that instructional scaffolding was used in delivering curriculum. One teacher explained that there were “no challenges in delivering curriculum. They start very basic, then they build from ground up”.

Absenteeism. This theme emerged from teachers in T&T. One teacher indicated, “the major challenge we have is on behalf of the students, some of the students have to work to send themselves to school so we have a high level of absenteeism”. Another supported this statement by adding “absenteeism is a big factor, sometimes you don’t see students for weeks actually. Sometimes when you do things, you have to forever keep going over stuff”.

Research Question 2 a.(iii). What are the experiences of select internal verifiers in the delivery of the CVQ using the CBET approach?

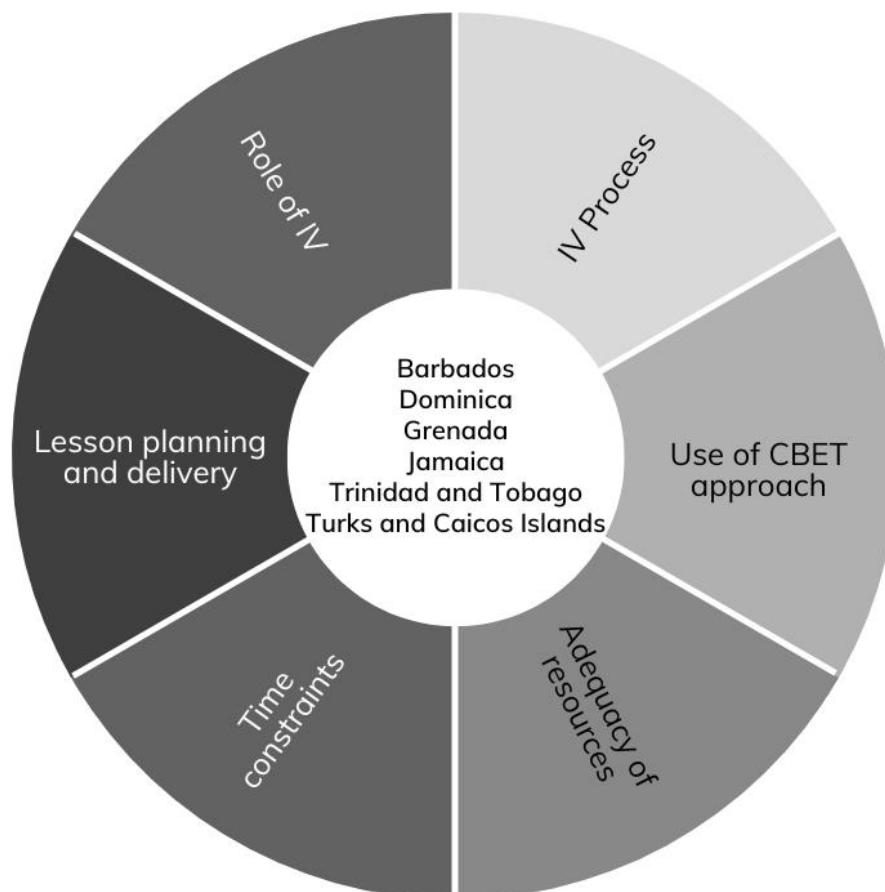


Figure 2. Summary of themes of internal verifiers' experiences in the delivery of the CVQ level 1 using the CBET approach.

As summarised in Figure 2, six major themes were generated from 12 interviews conducted in the six CARICOM states on internal verifiers' experiences in the delivery of CVQ level 1 in secondary schools. The analysis was guided by these themes.

Role of internal verifiers (IVs). IVs are required to manage the quality of delivery for the CVQ. IVs in five countries outlined varied roles in the CVQ system. One IV interviewed in Barbados disclosed that she was trained and certified and described a

good working relationship and frequent meetings with assessors. The IV also alluded to a good working relationship with MOE personnel responsible for the implementation of the CVQ and added that they responded very promptly when contacted.

Of the two IVs interviewed in Dominica, one disclosed that she was trained and certified while the other had only been trained. One IV described her role as “monitoring the assessor to ensure that they are doing what they are supposed to”. Another provided a detailed account of her role in delivery by articulating “One of the things I must see from them is their lesson plans; I look at their scheme of work and make sure they have a plan for the term and what they intend to do, what they intend to cover and how they intend to cover it”. The IV also provided examples of instructional approaches employed such as the project approach to achieve the competencies as prescribed in the occupational standard.

Of the four IVs interviewed in Jamaica, three indicated that they were trained and certified, while one said that he was trained but “have not received the certificate”. One IV described his role as “checking with the assessor as accurately as possible and ensure guidelines are followed for effectiveness of programme”. Another Jamaican IV explained that he was also the HOD and that his role was “varied, monitoring teachers, vetting assessor scripts, preparing materials and tools for external exams”.

Both IVs interviewed in the TCIs indicated that they were trained and certified, however, one IV reported, “to date I haven’t had the opportunity to put training into practice”. In describing their role, one IV articulated that they were required “to liaise with the assessor to ensure all aspects of delivery of [the] lesson [was] going well,... ensure that instructors are up-to-date and meet industry standards”. The three IVs interviewed in T&T disclosed that they were trained but not certified. One IV described her role in ensuring delivery of the curriculum as “monitoring” while another reported, “I ensure that teachers have all the necessary paperwork”. Another described her role as “working as a team with the teacher”.

Internal verification process. IVs in all countries explained various aspects of the internal verification process in their responses. The IV interviewed in Barbados revealed that internal verification was conducted every term and that it “only happens when SBAs are coming around”. The IV added that assessors were observed using

checklists and “folders” were examined. The trained and certified IV from Dominica was very explicit in describing her role by verbalising:

“To ensure that the standards, first and foremost are adhered to, they are followed and then put in place. Ensure that assessors are keeping up with the standards and that students are kept up to date. I do impromptu visits...as much as possible at least on a weekly basis”.

The IV added that she examines the progress of students to ensure readiness for assessment.

One of the IVs in Dominica indicated that there was no set timeline for conducting internal verifications since it “depends on how well students are grasping what they are learning”. The other IV indicated “right now, [I am] making sure I have all the forms and information is recorded”. One IV in Jamaica indicated that internal verification was conducted once per month, another “as often as I can since I have other subjects...not as often as I would want to...about 2 times per year”, while the third revealed that IV was conducted:

“on a yearly basis, we have two programmes specifically that require IV [internal verification] I don’t know if I can follow up how much I can give based on the requirement of it regarding my workload. We can rotate and have someone less utilised to pick up the slack. I don’t have the time”.

One Jamaican IV, in articulating his role, inclusive of guidance and monitoring, also alluded to the absence of quality and the reluctance of teachers to serve as IVs.

One IV in T&T described how the IV process was carried out by verbalising:

“we work as a team so whatever she does I am with her doing it in terms of we do it together that is how I know that she is doing it accurately or not. I would help her out and by doing that I would know if she is doing it correctly”.

Another indicated that she had to “sit down out of school hours to go through”, with the third IV only indicating that periodic checks were done.

Use of CBET approach. The IV interviewed in Barbados indicated that supporting each student based on the CBET philosophy was “challenging, but there are so many hours in a school day, try to move at a pace that everyone can follow. To rectify problems, students must be willing to stay behind [after school hours], give them opportunities to repeat, give opportunities to improve”.

When questioned about adhering to the CBET philosophy, one IV in Dominica was very brief indicating that “teachers do lesson plans. Teachers [are] very practical, students get a lot of practice”. However, the IV from another school was very explicit as she alluded to approaches consistent with CBET such as mastery learning, individualised instruction and frequent feedback with students in the Garment Production area. The IV informed that during her weekly visits, students reported their progress on meeting the requirements of the standard and described feedback obtained from the teacher. The IV concluded, “what I like is that every student is able to get individual attention and is able to see where they are going wrong”.

For one IV in Jamaica, supporting each student based on the CBET philosophy poses “a challenge, to be frank, for clothing, because teachers are interrelating CVQ and CSEC, it is tricky because the school have [sic] standard checks and mark books” consistent with the traditional approach to instruction. Another IV indicated, “one of the main things is that in terms of whenever we have departmental meetings, we discuss...students work on their own, persons are guided to deliver”. One IV in TCI reported that the main challenges in adhering to the CBET philosophy were acquiring resources and students’ poor attitude towards work.

An IV in T&T opined that CBET “is nothing hard to do” since even without CVQ, CBET “is a practice in these areas [TVET]”. The IV added, “they get my individual attention... one-on-one working with students”. Another spoke about ensuring that assessors provided “extra help” to students while another indicated, “when we are doing the IV,the thing about it is that we take our time. The work for me is not difficult...we will give them the time. That’s what we learned from our training”.

Adequacy of resources. IVs from four countries reported on the lack of resources to support delivery of the CVQ. One IV from Dominica spoke directly to the issue of lack of resources to support lesson delivery. The IV indicated “one of the issues we have had before... is in terms of having fabric and having simple things for students..., will have a beautiful lesson plan, but if you didn’t have the correct fabric and materials....that could be a hindrance”. IVs from TCI and Jamaica also lamented the inadequacy of resources and facilities for delivery. The IV from TCI reported,

“the plant itself has an issue with classroom space, delivery time. When I have a class, for example, no facilities to use the projector”. One IV from T&T described how they failed to meet the requisite HSE requirements regarding entry and exit doors for a laboratory.

Time constraints. IVs from Barbados, Jamaica, TCI and T&T reported that time constraints posed a problem in performing their roles. The IV from Barbados indicated that time for conducting IVs “was not facilitated on the timetable, however he indicated that since there was “buy in from the principal”, [regarding the implementation of the CVQ], teachers will occasionally “get time to develop the portfolio etc.”. The IV added, “For school, the only thing [issue] is time. I enjoy it”. One IV from Jamaica alluded to time constraints in conducting internal verifications due to an overloaded schedule by articulating “I have to be doing IV and my regular teaching....awkward”. One IV in T&T also made reference to time constraints in performing her role. She indicated, “The time to fit in with my timetable, it is difficult. I feel like the CVQ killing me now, I want to do it, I love CVQ, but the thing about it is I am so overwhelmed”. This also held true for IVs in the TCI where one called for “an increase in the number of sessions”.

Lesson planning and delivery. When questioned about lesson planning and delivery, one IV from Dominica emphasised that she was “not the one who is in charge of lesson plans, the coordinator is in charge of lesson plans”. However, another Dominican IV described in detail issues that negatively impacted the quality of lesson planning and delivery.

Jamaican IVs alluded to engaging instructors/assessors about lesson plans, in particular ensuring that lesson plans were done “according to standards”, “for CVQ” and “according to training documents”. Jamaican IVs spoke about collecting and comparing lesson plans with qualification standards. One indicated, “I also teach Electrical Installation. I will sit with teachers, with qualification standards and go through with lesson plan....”. One IV from T&T provided a detailed account of teamwork with the teacher regarding lesson planning and delivery. The teacher articulated “We will sit down and discuss it [lesson planning and delivery] so it is not like you do all of it and then I would look. We work as a team”. The IV added that lesson plans developed were critiqued and suggestions made, for example, on how to

ensure that activities documented in lesson plans were authentic. Another IV in T&T indicated that clinical supervision was done where there were weak points and declared that they “were lucky to have assessors with good pedagogical skills”.

Research Question 2 a.(iv). What are the experiences of select administrators in the delivery of the CVQ using the CBET approach?

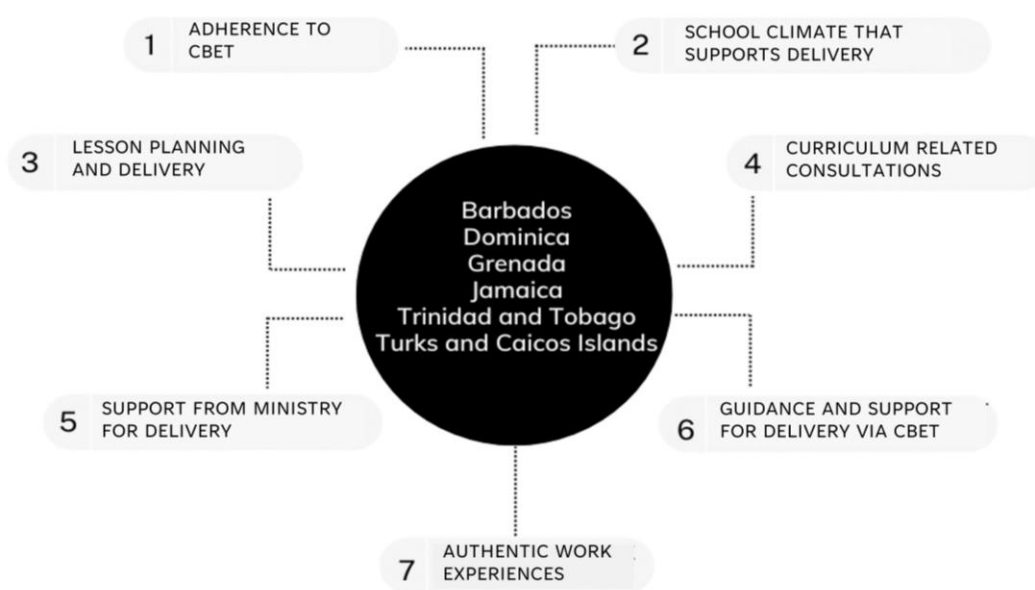


Figure 3. Summary of themes of principals/administrators' experiences in the delivery of the CVQ level 1 using the CBET approach.

As summarised in Figure 3, seven major themes were generated from 25 interviews conducted in the six CARICOM states on principals'/administrators' experiences in the delivery of CVQ level 1 in secondary schools. The analysis was guided by these themes.

Adherence to CBET. Responses elicited from principals/administrators regarding adherence to CBET principles unearthed the use of various strategies. One Barbadian principal/administrator indicated that teachers' schemes of work were examined to determine whether CBET was being followed. On the contrary, another principal explained that supporting each student based on the CBET philosophy was “not critical” for the school being managed since “each child can learn because of the

type of school”. However, the principal assured that they were “seeking to ensure the approach”. Another principal in Barbados asserted that he believed in the philosophy and that it was a good approach. He added that given the calibre of students, the CBET approach was preferred and added that once teachers have an appreciation of the philosophy, it was easier to teach CVQ along with CSEC. Another Barbadian principal spoke about deadlines/timelines associated with the CVQ, which prevented students from “experimenting” by articulating, “It will be nice to allow them to experiment, but you have to put things/controls in place”. One Barbadian principal ventilated about the difficulty in adhering to the CBET philosophy, since teachers were required to teach CSEC and CVQ simultaneously.

When questioned about adherence to the CBET philosophy, the principal interviewed in Dominica spoke about making adjustments to the timetable to accommodate delivery for the CVQ. The same response was provided by one principal from Grenada. However, another Grenadian principal indicated that the CVQ teacher was innovative and creative, and he ensured that the work planned by the teacher was “ok and acceptable”, while two others spoke about visits from Ministry personnel to address weaknesses and concerns. This was also the approach revealed by a principal from the TCI who added, “That has been a bit frustrating because for both teachers, well, we try to encourage them to use and also help them to do what is called team teaching, where we use the reading specialist”. The principal explained that teachers perceived students as lazy and took advantage of the fact that they can work at their own pace. Another principal stated that teachers had gained sufficient information from the CBET workshops attended to adhere to the requirements.

One Jamaican principal admitted that he was unsure of the approaches to CBET taken by teachers by articulating “Can’t tell you that I am sure they do” [adhere to CBET]. The principal explained that reference was made to the “CVQ approach” at seminars and staff meetings at the school and inferred that CBET was aligned with the Science Technology Engineering and Mathematics (STEM) programme. The principal described the CVQ programme as a “fairly good programme with STEM methodology” and posited that the STEM methodology was closely related to CBET. The principal added that “a large percentage of teachers are from the CSEC mold”, and that all teachers do not readily accept CBET, but they were improving in that

regard. Another Jamaican administrator indicated that “teachers have no problems going over” [repeating lessons] while another reported that only one programme was implemented and there was “no problem with the philosophy”. One principal from T&T spoke about unfamiliarity with the CBET approach. The principal indicated that “I am new to it, not sure that I deal with it at that level. I myself need to have a clear understanding. “The Ministry does not call us to workshops to deal with CVQ”. Another responded with some uncertainty by saying “I think I know the tasks they [students] have to complete and so on. I know that when they don’t do one [task] well, they give them another opportunity to make sure they can complete the task before they move forward”. Another administrator from T&T, in reporting on adherence to the CBET philosophy indicated that they were fortunate to have some very small classes with two to three students so that teachers can focus on individualised attention, he added that in instances where class sizes were larger, more experienced teachers were assigned and were also able to provide individualised instruction. Another administrator explained that issues regarding CVQ and CBET were addressed at departmental meetings, and individual plans for students were developed, however, she indicated that absenteeism was a challenge for some students. Another indicated that they supported teachers and were required to do clinical supervision within the practice, adding that “they got a sense of the philosophy, ensuring that they know that there are requirements”.

School climate that supports delivery. Principals/administrators described different approaches used to ensure that the school climate supports delivery of the CVQ level 1 programme. Two Barbadian principals spoke about implementing CBET delivery incrementally and including CVQ on the agenda at staff meetings as an item for deliberation/ discussion. One principal added that students were informed about CVQ offerings and workshops were held with third form students and parents about the CVQ programmes being offered. Three Barbadian principals/administrators spoke about the value of getting buy-in from principals in creating a school climate that supports delivery. One principal further articulated, “It starts with the principal. Once the principal has ownership to understand the importance of CVQ, it filters down to staff”. The principal added that even though staff was sensitised, they were “not too keen”, however, they grasped a better understanding when the Ministry and

the school subsidised the cost of training. Another Barbadian administrator suggested that if there was buy-in from the principals, “it makes it a whole lot easier”. He added that as the CVQ coordinator, he had to “go out and sell, make it [CVQ] visible, so that students who are at the borderline will want to do it”. Interestingly, one principal/administrator mentioned that his school catered for children who performed poorly at the Common Entrance (Barbados Secondary Schools’ Entrance Examination) and suggested, “If we look at the CVQ from the level of competency-based delivery, we are able to reach the children in a form [format] that reaches them where they are and allow them to progress and get the best of what we are seeking to do for them”.

Mention was made by another administrator about “low achievers” at their school who enjoyed skills-based subjects and therefore gravitated towards the CVQ. However, this was in contrast with the opinion of an administrator from another school who indicated that his school was renowned for excellence, which made it unique for delivery of the CVQ.

Adequate space was also identified by a Barbadian administrator as a requirement for effective delivery of the CVQ, while another boasted about competent staff and the great success in certifying CVQ students. Other characteristics mentioned by administrators included being able to link with the community and office to offer work experiences and the culture and identity of the school.

The principal in Dominica maintained that she ensured tools and consumables were available, even if it meant using her personal resources. She also revealed that the school owned a lot of land for crop production, and this was ideal since the school was situated in a farming community, in addition, hawkers purchased crops produced. There were also many vehicle owners in the vicinity of the school and no mechanic shops, so this presented an opportunity for the CVQ class to provide that service.

Similarly, two Grenadian principals maintained that they ensured that resources were provided, one added, “[I] Had to get teachers’ buy-in... promoted the CVQ to other teachers and consulted with parents. I also addressed parents at PTA meetings. We had formal and informal sharing sessions with other teachers about the CVQ. Initially, we had resistance, but they bought into it”. Another indicated that information about the benefits of the CVQ was shared with parents and added that

“We had a PTA meeting and persons shared with parents, we would have shared information at previous PTA meetings as well. We have timetabled the CVQ as a subject, the teacher reminds them of the value CVQ has for the children”. Meetings with parents and teachers was also the approach taken by another Grenadian principal who added that teachers were also passionate about what they did and partnerships were established with NGOs as well as CARDI to ensure that the school created a climate to deliver the CVQ curriculum.

One administrator in particular disclosed that materials, consumables and equipment as well as financial support were provided by a Faith-based organisation, while another disclosed that the school owned a lot of land on which farming was done. Another administrator spoke of her school being “technical” and believed that many students who were not academically inclined will benefit from pursuing the CVQ. This belief was also expressed by a Jamaican administrator who informed that students with different levels of ability were assigned to the school.

Other Jamaican principals spoke about addressing timetable issues, sourcing materials for delivery of the curriculum and educating all stakeholders about the CVQ. One principal, for example, maintained that “we try as best as possible to engage standards in all practical activities by getting, as best as we can, the most suitable types of equipment students can practice on”. Another indicated that the school was located in an area where CVQ graduates can get employment.

One administrator from TCI indicated that students were allowed to choose which CVQs to pursue and added that “we don’t select for kids, will suggest to them, will not dictate to them”. Another administrator reported that efforts were made to attract students by informing them of career pathways and progression opportunities in the CVQ programme. In addition, the administrator related how easy it will be to find workplace attachments for students pursuing furniture making since the school had a commitment from the hotels/resorts within their vicinity to facilitate these attachments.

Two Trinidadian administrators made reference to timetable adjustments to ensure that the school had a climate to support the delivery of the CVQ programme, one added that an open-door policy was maintained. Another indicated, “In staff meetings, the head will normally take charge of the department meetings and I will

take other teachers in the department because they see the importance of the CVQ. The entire staff has accepted [the CVQ programme]. We don't really have an issue with teachers in other areas not supporting the CVQ". Another principal affirmed that the CVQ teachers were dedicated, "willing to give time" and "very facilitative", while another indicated that "notwithstanding some of the teachers' attitudes and so on, I try to be very persuasive with the teachers and encourage them, mentor them as far as I can to work towards the delivery of the programme". Like those from other countries, T&T administrators spoke about CVQs being beneficial for students who had literacy and numeracy challenges and those placed in the school who performed poorly at the Secondary Entrance Assessment (SEA). Other characteristics of the school culture were mentioned such as: accommodating assessors, OJT assistants who provided support to CVQ teachers, the accommodating environment and hardworking, experienced, dedicated teachers.

Lesson planning and delivery. Principals/administrators described various ways of treating with issues that negatively impact the quality of lesson planning and delivery. An administrator from Barbados described how he managed lesson planning and delivery by articulating "the first tier is that of the HOD, they inspect the scheme books before they come to me. I expect the HOD to be looking to see the developments that's taking place in the growth and progress, so if it is something that is going to impact negatively, they come to me so that I can treat that situation". Another indicated that although there was resistance, support was provided for teachers, but older staff members were challenged. Another administrator indicated that the only issue in the delivery of lessons was acquisition of the materials to be used, adding that teachers needed to be creative. One administrator felt that additional training for teachers will assist in addressing issues with lesson planning and delivery, while another advocated for regular meetings and an open-door policy. One Dominican administrator highlighted that the CVQ was "too expensive" and that "[depended] too much on parents".

Two Grenadian administrators suggested that teachers were competent in developing lesson plans. One articulated "generally, teachers have good [lesson] plans", while the other said "teachers are trained and seasoned. Most of them have been doing lesson planning. They have been given a template and format or

something. HODs will check different plans once a week”. Another indicated that an issue which negatively impacted lesson planning and delivery was the management of time. He reflected that, “I tried to take away time [from regular classes] so teachers will get time to attend to regular CVQ”. This was supported by another administrator who indicated that because of insufficient time, after-school classes were conducted.

A Jamaican administrator commented that “lesson planning is always a contentious matter. Lesson planning from institution to institution differs in plan and format. My personal view, as long as the lesson plan carries major objectives and expected outcomes and the lesson plan is being evaluated to see which students learn and did not learn, I am quite ok”. Another administrator indicated that they had just gone through some new 5Es lesson plans and added that group planning and “pooling for lesson planning” was done as far as possible. The 5Es lesson plan is student centric and supports inquiry-based instruction. Another administrator disclosed he engaged teachers in one-on-one conversations to provide guidance and suggestions, conduct evaluations and do reflections.

One administrator interviewed in the TCIs indicated that to address any issues regarding lesson planning and delivery she will speak firstly with the teacher to try to resolve and if unsuccessful, refer to the CVQ coordinator. Another TCI administrator indicated that teachers would have adapted based on what they gleaned from seminars and that they had “a script to follow”.

One administrator from T&T expressed optimism, indicating that “first, I have been encouraging teachers to do lesson plans and the Delivery and Assessment Plan. Gone past that stage now. So, they now on Board. I sit with them, work with them, I try to do it with the HOD because some of the HODs feel that you are stepping in their areas”. Another T&T administrator disclosed that “this is where the head [HOD] will come in. Normally, with the lesson planning and delivery ... I will liaise with the head if there are any issues and then she will liaise with the teacher directly”. The administrator added, “honestly speaking, I don’t know how we do it, even without any money”. Another T&T administrator indicated that one-on-one meetings were convened, and issues were aired at departmental and staff meetings, while another claimed that teachers were “trained 100% to follow guidelines set by NTA” so there were no challenges with lesson planning. Yet another T&T administrator spoke about

a “Day Book” that the teacher was required to fill out what was being taught on a daily basis. He added that the “Day Book”, which was kept by the teacher and checked by the HOD, was used as a guide to monitor how delivery was progressing.

Curriculum-related consultations. There were deliberate attempts by some principal/administrators to engage in curriculum -related consultations while with others it was incidental. Three Barbadian administrators disclosed that curriculum-related consultations were pursued, in some instances via email and Whatsapp with other schools that offered the CVQ level 1. One in particular indicated that they engaged in these consultations when the Education Officer at the MoE responsible for the implementation of CVQs scheduled meetings for coordinators from other schools. Another Barbadian administrator indicated that they “bounce” ideas off each other to try to find the best way forward for everyone. One reported that in addition to collaboration with staff from the various schools, students were transported to other schools to practice skills within “approved” centres. Another administrator was very explicit and indicated that the MoE was more instrumental in facilitating curriculum-related consultations since, from time to time, workshops were conducted simultaneously with several schools, so that teachers get an opportunity to interact, communicate and collaborate. The administrator added, “For Fabric Design, what we did in one of our staff meetings, we invited a teacher from another school who had already done the programme in that school to come and give our teachers some heads up as to how to move forward with the programme”. In Dominica, the principal interviewed reported that teachers and students visited other schools that have already implemented the particular CVQ programme and teacher exchange was also facilitated.

Unlike administrators’ experiences in other educational jurisdictions, Grenadian administrators disclosed that there were no planned curriculum-related consultations with other schools that offer CVQ level 1. One administrator indicated that contacts were made with schools regarding syllabi for the CVQ. Another administrator reported that her school was the only secondary institution that offered crop production and that all curriculum consultations were carried out by the MoE. She, nevertheless, revealed that curriculum consultations were done at the level of the principals of secondary schools but not directly with other schools that offered the

CVQ. One administrator disclosed that contact was made with other CARICOM countries that implemented CVQs with the aim of initiating collaboration. Another Grenadian administrator indicated that students engaged with other schools that offered CVQ on their own and added that he occasionally received feedback from the MoE in terms of where they were in relation to other schools.

A Jamaican administrator deduced that they “were not doing well” on curriculum-related consultations, as checks with other schools were only done by himself and one other teacher, therefore there was a need to improve where that was concerned. This was verified by another administrator. However, one other administrator indicated that a general WhatsApp group was established with teachers of Home Economics to collaborate on any aspect of CVQ or CVQ-related matters. One administrator from TCI indicated that curriculum –related consultations were facilitated via various media by articulating “Well, for now, we just ...via the telephone, we have meetings together whenever there is an issue, the schools will be called together, and it will be dealt with generally”. The administrator added that the coordinator for the CVQ programme was actually from another school. She further stated that another teacher worked closely with her peer from another school. She described how “they work together, they will tell each other about resources... was able to get resources, [such as] some books from her...so the consultations were mostly via phone...”.

Two administrators from T&T disclosed that curriculum –related consultations were minimal or only done via workshops facilitated by the NTA or at other meetings. Another indicated that ideas and issues about the CVQ were shared among principals at fraternity meetings. One administrator was very explicit regarding curriculum-related consultations and described how he liaised mainly with Electrical Installation teachers. Their discussions, which were mainly centred around the CVQ, focused on evaluating what was being done and soliciting feedback. Another T&T administrator indicated that consultations were facilitated with another school via a teacher who served as an IV for that school.

Authentic work experience. Some principals/administrators proffered various reasons why providing authentic work experience for CVQ students proved challenging in some instances while others informed of efforts to accommodate

students or the viability of such activities. A Barbadian administrator indicated that providing opportunities for authentic work exposure for students had “proven to be a bit challenging” and added that other schools run a school-to-work programme but businesses did not see their school as “one of these schools”. However, the administrator stated that he was planning a “full project” for the school. Another Barbadian administrator expressed that businesses were unwilling to accommodate students at their worksites. He articulated “A business last week said that we cannot bring students to do work attachments. Businesses [are] not that willing to have students on worksite”. Another administrator expressed apprehension about the legality of thirteen- and fourteen-year-olds going into the work environment since in some instances CVQs were pursued from form 3. To counteract this challenge, the administrator indicated that the school tries “to do simulations for older students” to avoid any legal issues and added that there was a need to find the right environment and the workplace to accommodate for authentic work exposure. Yet another administrator spoke about “finding businesses where students can have experience” and lamented that theirs was a small country with “only so many businesses” and not all students can be accommodated simultaneously. An administrator indicated “job placement, job attachment, we would like to see more of that, the problem there is really the employers being aware that these children do have the skills, even it is for a small internship”, adding that there were no issues with students’ attachment to the workplace, but it can only be accommodated during the vacation period. Only one Barbadian administrator described that they were “doing what is called school-to-work” and gave an example of where students were placed.

The Dominican administrator interviewed informed of attempts to organise authentic work exposure by explaining, “we organised an attachment for crop production for Easter, but we heard that they [students] had not been registered [for the CVQ]. We are trying to go through with an Auto attachment for summer”. The administrator also outlined the procedure for these attachments by adding that students were given a checklist which the supervisor at the workplace signs off/endorsees.

One Grenadian principal affirmed that work attachment for the students will not be a problem since the teacher had a good relationship with the furniture makers

in the area. Two administrators stated that it will not be difficult to provide opportunities for authentic work exposure for students; one rationalised that skills being honed via the CVQ programme were required in the workplace while the other spoke about the good relationship that existed between the teacher and furniture makers. Another administrator related that the teacher had already made contact with some businesses in the city.

A Jamaican administrator spoke about unwillingness on the part of the students to participate in workplace attachments as well as the fact that they were not covered by insurance for any accident that may occur in the workplace. Two others described work experience programmes that were implemented at the school, whereas one indicated, students were “sent out two weeks in the working field”. Another Jamaican administrator added that most of the established hotels were unwilling to engage students who were under 18 years old therefore limiting their options for placement of students to smaller establishments and guest houses.

One TCI principal indicated that they were putting things in place to provide opportunities for authentic work exposure for students and the plan was to go out to industry, however, timetabling was an issue. Another informed that three hotels accommodated students before, even those without CVQ training. One administrator explained “They are limited because in North Caicos we have just one resort [hotel] that is able to offer the students the exposure that they will get but it is still limited since only food preparation and furniture making could be accommodated.

One administrator from T&T indicated that the school had a good working relationship with oil companies in close proximity to the school who were willing to accommodate authentic work exposure for students. This was also the case at another school where the administrator listed the organisations that had accommodated CVQ students on field trips and authentic work exposure. Another indicated that field trips were accommodated on the school compound where students may work in the cafeteria or engage in woodworking activities “as the classes always have furniture to repair and auto, cars to repair”. At another school, the administrator reported that students worked with office staff since they were pursuing the CVQ in General Office Administration. One administrator described the exercise as “manageable” because CVQ students pursuing occupational areas in construction informed of projects within

close proximity of the school that were willing to accommodate work exposure and field trips.

Support from the Ministry for delivery. Principals/administrators described varying levels of support for delivery of the CVQ programme from their Ministries. One Barbadian administrator described the support obtained by articulating “Well, they are very much involved in the delivery of the programme, we get good support from the education officer who is the link between the schools and the Ministry”. The administrator reported that funding for equipment and materials was provided by the Ministry as well as all assessment documents. Personnel from the MoE also visited the school to provide support to teachers, inclusive of assistance with portfolio building. Another disclosed that the Ministry provided resources “to some extent”, while one other indicated that the Ministry was key in providing financing and making training opportunities available for staff. Nevertheless, another Barbadian administrator was of the opinion that the Ministry should play a more active role in sensitising the public to convince parents that the CVQ was a viable option for students and to assist in de-stigmatising the CVQ since “people had the feeling that it was only for students who could not achieve”.

Contrarily, a Dominican administrator articulated:

“The Ministry needs to stop now and go back to square one. Make sure that schools and facilities are in place, make sure everyone is trained, then let’s go! It is four years now this school talking CVQ, it’s been four years, and no one is successful. By the time the Ministry is ready, parents will be demotivated, very little training is given to principals, they need to consider some meeting for people [supervisors]”.

Grenadian administrators voiced their expectations with respect to the Ministry’s role in ensuring effective delivery of the CVQ programme. One indicated that the Ministry could provide more resources and more teachers. Another articulated that the CVQ “Needs to be marketed properly. We need a backup or pool of teachers. We need to ensure that parents buy in, and students see the significance of CVQ. We have to make sure that workplaces recognise when students have CVQ certificate so that when students come, they know about CVQ”. One administrator’s focus was on the monitoring role that the Ministry should provide by saying “MoE

needs to have persons who would visit schools on a regular basis”. The administrator added that visits from Ministry personnel were not regular and when they did occur, the focus was mainly on plant and equipment and not quality delivery of content. Another administrator identified the need for clarity about timetabling and facilities for implementation of the CVQ and implied uncertainty about these things on the part of the Ministry.

One Jamaican administrator advised that the Ministry needed to make a policy decision on CVQ for students “at the lower end of the spectrum”. Another suggested that the Ministry needed to move with alacrity to provide adequate resources and facilities since the programme was fully implemented one year ago. Another claimed that the Ministry needed to look at the cohort of teachers delivering the programme as one of the deficiencies was the inactivity of some teachers.

Administrators in TCI echoed much of what was gleaned from those in other countries as one spoke about the Ministry providing more resources and tools as well as conducting periodic checks to ensure the programme was being effectively delivered. Another administrator indicated that the Ministry should support by providing the school with the requisite infrastructure, facilitate procurement of resources, and permit the school to collaborate with sectors in the occupational areas pursued by students so that they can assist with industry attachments, sensitisation and marketing of the CVQ.

An administrator from T&T complained that the Ministry had taken some actions that were to the detriment of the CVQ programme. He revealed that requisitions made were cut by one half and implied that this was due to financial constraints within the economy. He also claimed that he did not possess the requisite training to effectively manage the CVQ at his school. Another Trinidadian administrator suggested that the Ministry should allocate a “separate portion of money for the CVQ” as was previously done. An administrator at another school proposed that the Ministry should provide timely training for assessors and internal verifiers while two others suggested that more resources should be provided, with one adding that a CVQ Assistant should be recruited as the one originally assigned to the school had left.

Guidance and support for delivery via CBET. Guidance and support for delivery of the CVQ level 1 via the CBET approach was not consistently implemented across countries. One administrator from Barbados was very vocal about the level of guidance and support provided for delivery by saying “that’s where we are falling down. We haven’t done as much as we can, it comes back to the MoE”. Another Barbadian administrator indicated that he sought buy-in and advocated for CBET and dual certification by organising whole school sensitisation and staff development sessions. He added that there was still some resistance because of the amount of work that was initially required.

Another administrator reported that targeted training was provided, as the MoE sponsored a two-week CBET workshop in Canada where they were exposed to the implementation of CBET. He indicated that the training was useful as on their return they were better able to equip teachers to deliver via CBET. However, this training was not afforded to all Barbadian administrators as one reported “We try as much as possible to use the CBET approach for teaching, you know, the delivery of knowledge, but two constraints that we have really, one is time to deliver, because you are aware it takes a little more time than chalk and talk.... [we need] some more training in CBET approach to teaching and delivery”. Another administrator endorsed the view that teachers needed more training in CBET, and disclosed that “apart from Assessor Training, the only other way that [training] is provided is through my workshops. To be honest, we have a large gap where that is concerned in Barbados”. Another administrator disclosed that no specific workshops on CBET were offered to CVQ staff involved in delivery.

The Dominican administrator interviewed indicated that although everyone had “their manual, [we] need to get formally trained, no one is giving guidance, we sit and discuss and decide how it is being done”. Three Grenadian administrators reported that the Ministry of Education provided guidance for the delivery of the CVQ programme via the CBET approach. One added that the CVQ teacher was very experienced, and she ensured that he “gets the required periods and the necessary conditions to work in” and that time was taken from other periods to ensure that the teacher got adequate time for delivery. Another indicated, “teachers are aware of the programme and the basics that are required”.

One Jamaican administrator disclosed that both the principal and vice principal were on board where the CVQ was concerned and that assessors, who were also TVET specialists were trained in assessment. Another informed that workshops for teachers were organised.

Two administrators from the TCI spoke about conducting workshops and seminars, one added that staff was encouraged to do CBET courses, while the other indicated that there was a need for refresher training. Another administrator was very explicit in articulating the level of guidance and support given to staff for the delivery of the CVQ curriculum by saying “Most of the guidance, to be honest with you, some of the things that they do, they have to tell me, and [we] would just have to try to do as much as possible. Some of the things they do, they rely heavily on the coordinator”. One Trinidadian administrator indicated that clinical supervision was used for all areas, especially for those new subject areas (inclusive of CVQ). Another spoke of conducting workshops on lesson planning in accordance with CBET with teachers rather than using the traditional model. Another administrator indicated that the NTA Assessor Training workshop was sufficient and that CXC was quite pleased with what they observed on their End of Production audit visit. She also indicated that teachers were comfortable with the CBET approach. Another mentioned that the level of support provided for delivery of the CVQ included ensuring that the classroom was equipped with the requisite resources while another indicated that she ensured that students got enough practice.

Research question 2 b.(i). What are the experiences of select students in the assessment of the CVQ level 1 using the CBET approach?

Table 28

Summary of Themes by Country of Students' Experiences of the Assessment of the CVQ Using the CBET Approach

Country	Insufficient Time	Challenges with written tests	Lack of resources/facilities	Heavy assessment workload	Group assessments	Intimidation	Other Themes
Barbados	√	×	×	√	√	√	Level of preparation for assessment
Dominica	√	√	√	√	√	√	No notable responses
Grenada	√	√	√	×	×	×	Incidents in workshops
Jamaica	√	×	√	√	√	×	No notable responses
T&T	√	×	×	×	√	√	No notable responses
TCI	√	×	√	×	×	×	No notable responses

Note. √ = Theme present and × = Theme not present.

As depicted in Table 28, six major and two minor themes were generated from 23 focus group sessions conducted with students in the six CARICOM States of the study. The analysis was guided by these themes.

Insufficient time. Students from all six countries concurred that time constraint was one of the main issues with assessment for the CVQ. Barbadian students made reference to time being an issue because of timetable clashes with other subjects. One student from T&T indicated that he “was not able to move fast enough” and admitted that “time management” could have been the challenge on his part.

Written testing. Students from Dominica and Grenada reported having challenges with written testing for the CVQ. While Dominican students indicated that

they had difficulty remembering the correct terminologies used, a Grenadian student claimed that they were assessed via written tests for which they were not prepared.

Lack of resources/facilities. Students from four countries complained about not having sufficient as well as functional equipment for their assessments. Dominican students alluded to a “lack of equipment” and “lack of money from parents to buy equipment” for completion of assessment activities. Grenadian students expressed frustration over the lack of requisite equipment in the lab during assessments. One student explained that due to limited equipment, there was a long “waiting time” for equipment during assessments. Jamaican students also referred to “limited equipment”, “not enough materials to share” and not having “the right tools and equipment during assessments. Students from T&T spoke about “equipment malfunction” during assessments and not everyone being able to afford consumables for assessments. Students from Jamaica and T&T reported on insufficient space in the lab during assessments. One Trinidadian student indicated that the Carpentry workshop was “too small”.

Heavy assessment workload. Students from three countries reported that the number of assessment activities they were required to complete was an enormous amount of work. One Barbadian student admitted that the portfolio “is a lot of work, but the teacher helps”. Dominican as well as Jamaican students also alluded to a heavy assessment workload. One Jamaican student indicated that there were “a lot of projects to go through, we have to maintain crops, [it’s a] lot of work”.

Group assessments. Students from Barbados, Jamaica and TCI shared experiences regarding group assessments. One Barbadian student indicated that “working in groups can be difficult” and that he preferred to work on his own. A Jamaican student implied that social loafing occurred when they were being assessed in groups by articulating “when we [are] working, the students don’t help”. Another made reference to student absenteeism as an issue when doing group assessments by indicating that “you have to do it yourself”. However, students from TCI spoke about the benefits of collaboration when doing group assessments. One student indicated, “when I have to lift some stuff, it is challenging, but my peers help”, while another posited, “Teamwork makes the dreamwork”.

Intimidation. Interestingly, this theme emerged from two of the six schools. One Barbadian indicated “I get nervous, stress, because in food preparation, we had a lot of preparation, our teacher made us do practice assessments before the actual one.....and then the stress causes us to forget things”, another added “Assessors look at you weird”. Further clarification was provided by another student who said that they were “intimidated by the fact that someone is looking at you”. A student from TCI indicated that “time for practicals [practical assessment], I get nervous”.

Unique emergent themes specific to countries. *Preparation for assessments.* This theme emerged from students in Barbados. One student admitted “to be honest, we did not have a lot of preparation”. However, this was not consistent with what other Barbadian students shared as they referred to having a “lot of preparation” and doing “practice assessments”.

Incidents in workshop. Grenadian students shared experiences regarding accidents that occurred in the workshops during assessments whilst they were not attired with personal protective equipment.

Research question 2 b.(ii). What are the experiences of select teachers in the assessment of the CVQ level 1 using the CBET approach?

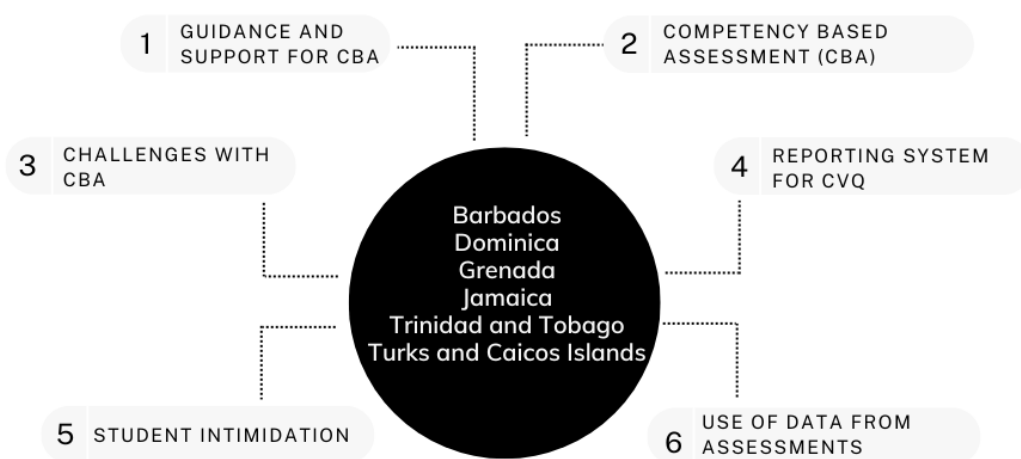


Figure 4. Summary of themes of teachers' experiences of the assessment of the CVQ level 1 using the CBET approach (Change "Competency Based Assessment" to "Adherence to CBA").

As summarised in Figure 4, six major themes were generated from 19 interviews conducted in the six CARICOM states on teachers' experiences in the assessment of CVQ level 1 in secondary schools. The analysis was guided by these themes.

Guidance and support for CBA. Barbadian teachers indicated that they received training from the TVET Council and MoE officers who assisted with documentation and assessment plans. However, some teachers also disclosed that no guidance and support was provided for the assessment of the CVQ via CBA. Further, one teacher reported that guidance and support "took a while, have been getting a lot of promises, then the assessment format changed about 3 times, the forms changed....support is building now, feeling a little more comfortable". The teacher emphasised that guidance and support for assessment was "definitely improving". In contrast, one teacher was very vocal and disclosed "None! For example, we are expected to gather the performance of students in a particular discipline, one way is via pictures, and we are not given anything to take pictures".

Some teachers in Dominica disclosed that they were neither trained nor certified and needed assistance with completing the requisite assessment documentation. One Grenadian teacher admitted that there were shortcomings regarding quality assurance on their part since internal verifiers had not yet been identified and no one was reviewing the portfolios being built by students. Teachers from one school in TCI had different experiences. They indicated that assessors and verifiers liaised with each other regarding CBA, and received training organised by administration. In another school, some teachers indicated that they were left on their own while others reported that they normally have persons from the MoE who facilitate workshops from time to time. Teachers from two schools in T&T commented that guidance and support for the assessment of the CVQ via CBA was provided by the NTA. Some teachers from one school in T&T informed that IVs were assigned, however, they were on their own when preparing for internal

verification; this was not the case with those from another school who confirmed support from the IV.

Adherence to competency-based assessment (CBA). Two Barbadian teachers expressed doubt about the use of the CBET model for assessment. One articulated that he was “not sure if we are using the CBET model. CBET suggests that all students may not be at the same place at the same time, but we are required to assess all students [simultaneously].” This was endorsed by another teacher who explained that they had “no problems with continuous assessment, the challenge is, we are still expected to assess most or all of them at specific times. I don’t think that time should be specific.” Another teacher indicated “I have no problem with continuous assessment, I believe in scaffolding”. In general, teachers endorsed the use of continuous assessment, and one teacher even offered some advice by articulating “Be wise, plan ahead, you have an opportunity to have pictures in a portfolio, don’t always have to be a formal one”. All teachers from Dominica endorsed the use of continuous assessment and feedback. One articulated “You need that continuous assessment. It is a practical based subject. Must keep practicing. Sometimes students do not get it right first time, feedback and continuous assessment [are] important”.

Responses elicited from Grenadian teachers implied they endorsed CBA. One Grenadian teacher highlighted one of the advantages of CBA as truly confirming competence since “you can see what each person can do beyond the shadow of a doubt”. Another indicated that CBA was a fair method of assessment which provided an opportunity to identify particular skills of students “even if you have not covered all the standards”. Another teacher made reference to the authenticity of CBA by indicating that it gives a true reflection of where the students were as it was more realistic and reliable as it confirms the competence of the student. One teacher also expressed the view that the conduct of continuous assessment assisted in evaluating prior competencies of students and “it will not take a whole term to realise that the students don’t know the basics”.

Jamaican teachers also endorsed the use of continuous assessment for the CVQ level 1. One teacher indicated “Practice makes perfect, students get an opportunity to perfect skills, get a chance to put into practice what students have been exposed to, speaks to a level of mastery”. One teacher articulated:

“continuous assessment is the means by which I will get to identify the level at which my students are, so if I don’t do continuous assessments, then I will not be able to do a true assessment, so by doing continuous assessments I will be able to identify what I need to do, if there is an area where I may need to put in more effort with a particular student”.

This assertion also held for teachers from the TCI as one teacher reported that he had no issues since he believed that continuous assessment was required to maintain skills currency. He endorsed continuous assessment and added that the flexibility of the process allowed teachers to use a variety of assessment methods. Another teacher added that continuous assessment was the best approach as both the student and teacher will know their strengths and weaknesses.

Teachers, in one school in T&T, attested that student enjoyed doing assessments and described CBA as “manageable”, adding that they even try to give them “too much” and “little by little”, the summation of which served as evidence of students’ achievements. Teachers from another school endorsed CBA by saying “it’s good, keeps students aware and what they have to do, how far they have reached. It allows you to be better prepared as a teacher as you test small units and small topics instead of a large volume of work”. Similar views were echoed by another teacher who added “It’s good, keeps students aware and what they have to do, it also allows the teacher to know what they have to do, how far they are in the curriculum, what needs to be assessed. It also gives you the ability to get feedback. It allows you to be better prepared as a teacher, gets you more updated in what you have to prepare”. Although teachers endorsed CBA, some regarded the completion of the requisite assessment documentation for individual students as a “waste of resources”.

Challenges with CBA. The collective responses from teachers in all countries across all secondary schools in the study identified similar challenges with CBA for the CVQ level 1 programme. These include:

- Student absenteeism
- Lack of resources/consumables/equipment/PPE
- Inadequate facilities
- Too much paperwork/documentation

- Insufficient time to conduct assessments
- Intimidation (students)
- Literacy and numeracy challenges
- Absence of a School-to-work programme

Student absenteeism was identified as a challenge when conducting assessments for the CVQ level 1. Trinidadian teachers identified absenteeism as a challenge in their endeavours to conduct assessment via CBA. One teacher explained “High absenteeism. If there is an assessment due, sometimes children might not be there for several reasons. I have to try to do the assessment whenever they are there which is not the correct thing to do”. Another Trinidadian teacher spoke about a protracted assessment period as a result of student absenteeism by articulating “When assessing students for the CVQ, because of absenteeism, sometimes you don’t get the group together, assessing one unit may last a long period of time”. This challenge was also articulated by Jamaican teachers who also identified student readiness as a challenge.

Insufficient resources posed a challenge for teachers in conducting CBA for the CVQ level 1, especially given the need to repeat assessments. Dominican teachers lamented the challenges experienced with lack of consumables when assessing CVQs in the Agriculture sector as the students “have to do it over and over, which is expensive”. This also held for teachers in Grenada as one teacher explained, because the student was required to perform the task several times to be deemed competent, finances and resources were inadequate. Teachers in Barbados identified the absence of PPE, as well as cameras as challenges when conducting assessments.

Teachers identified too much paperwork to complete as a challenge when conducting CBA for the CVQ level 1. Barbadian teachers referred to voluminous paperwork as being “very tedious” to complete and sign. One teacher pondered “If there is a way you can do all of this [paperwork], if there could be cutting down on the enormous amount of paperwork”. One teacher in T&T indicated “Paperwork is horrendous, every year it changes, changes like the colours of the rainbow”. Another articulated “It is really mind boggling the amount of paperwork you have to do. Every

year when you think you have grasped this and know what has to be done, paperwork changes”. One teacher also declared “Documentation is a lot, not only for the teacher, but for the child”. Teachers in TCI also made reference to the documentation involved when assessing students. One teacher articulated “To be honest, it takes a lot out of you to be documenting....all these forms you have to fill out”.

There was unanimous agreement among Grenadian teachers about insufficient time allocated for assessments given that CBA required more time for assessments. One teacher indicated, “if they are assessed and [deemed] not competent...will require that they have to go it over”. Teachers from the TCI also alluded to time constraints, one teacher verbalised “The challenges now, time is a factor. Sometimes on a given school day when you have students to deal with other subjects, you find that you have to really structure your time in such a way that you have to do group assessments”.

Literacy and numeracy challenges among students were also identified as inhibitors in conducting CBA. A Barbadian teacher opined “One of the major challenges is the type of children we have, even this CBET must have levels of literacy and numeracy and some students lack this”. The teacher suggested that given the low levels of literacy and numeracy in students, learning ability will be enhanced if technologies such as multimedia projectors and computers were available.

A Grenadian teacher opined that CBA would ensure that students acquire a better understanding of the CVQ, however, he attributed the low literacy levels of the students to misunderstanding assessments and responding erroneously as they “mix up things”. He also reiterated the lack of the right attitude of students by indicating that “some of them can’t be bothered”.

Teachers in one school in Barbados indicated that one of the challenges when conducting assessments is the absence of a School-to-work programme to enhance the ability of students. The teachers rationalised that work experience will help commit tasks to memory and so make it easier when they are being assessed.

Reporting system. Teachers in Barbados alluded to the type of End-of Term Report produced for parents given the nature of the CVQ and CBET. One teacher opined “Because it is new, parents are not familiar, they like to see grades. Parents don’t like “Not yet competent”. A teacher from another school explained “At the end of the term, we have to report on traditional form, [there is] no rubric to transfer this

into whether they are competent or not yet competent”. The teacher suggested that the reporting system for the CVQ be revisited to depict where students were deemed competent or not yet competent in a format that can be understood by parents.

Student intimidation. Teachers from two schools alluded to students being intimidated when being assessed due to the presence of assessors and verifiers. A Grenadian teacher alleged that the presence of an external assessor/verifier adversely affected students during assessments. He explained that during “practical assessment [some] students tend to get nervous when there is someone else coming in, they are not comfortable with other people and forget a whole lot of information”. He indicated that on reflection after assessments, students disclosed that they knew the information and explained how the activity assigned should have been done. One teacher from Barbados explained, “Sometimes students get anxious, they think they have to be perfect, anything you explain to them, students feel that they must do it correct the first time”. He added that because students were being observed by a number of persons simultaneously, they felt pressured since they thought that they must achieve competence at that time.

Use of data from assessments. Teachers explained how data from assessments were used to improve delivery. One teacher from TCI articulated “Well, the data I’ve collected, firstly, I give my students feedback as to what the assessment has accomplished and then, I try to use my findings to really influence the other lessons that come up”. Another teacher from TCI indicated “I would point out mistakes, areas of improvement ...and help to correct where necessary”. Another teacher stated, “Data can be used to determine strengths and weaknesses, where there are weaknesses, [we] evaluate and use other strategies to get them up to mark”. Teachers from Grenada spoke about using data from assessments to change the delivery approaches since the data showed where the child did not understand. A teacher from Barbados explained that data from assessments can assist in identifying his shortcomings by articulating “Me, personally, first assessment showed me where I was lacking and where I can improve”. Another Barbadian teacher indicated that he engaged in reflection when examining data from assessments. The teacher reported, “I reflect because we have interaction with the EV...changes are made to the syllabus when we recognise the problem”.

Research question 2 b.(iii). What are the experiences of select internal verifiers in the assessment of the CVQ level 1 using the CBET approach?

Role of the IV in assessment. Internal verification focuses on the validity of assessment instruments, reliability of assessment decisions, practicability of assessment instruments, consistency of assessment practice within the school over time and sufficiency of evidence. IVs are required to monitor and support the assessor to manage the quality of delivery and ensure that the assessment process is being followed.

The process involves sampling of evidence, review of assessment records to ensure that assessment results are accurately and appropriately recorded in accordance with the requirements of the CVQ, review of assessment practices and observation of assessors to ensure sound and fair assessment practice and a review of conditions within the system that impact the assessment process and recommend corrective practice where required. These activities are conducted via regular internal verification and standardisation meetings with assessors, sampling and observation of assessors. A mentor system to support newly trained IVs is recognised as good practice within the CVQ system (CANTA, 2015).

The Caribbean Association of National Training Authorities (CANTA) has prescribed the role of the IV in the “Quality Assurance Criteria and Guidelines for the Caribbean Vocational Qualification” as follows:

- liaising as necessary with assessors to give guidance on standards, advising and supporting them in their role, managing their workload and identifying any training needs that they may have
- confirming that proposed assessment material is valid, reliable and practicable
- ensuring by observation and an effective sampling procedure that candidate interview and assessment decisions made by assessors are consistent
- carrying out standardisation exercises in group sessions with assessors, including checklists, model questions and answers, banks of materials for common use, and dual assessment

- verifying that the standards attained are in accordance with those stated in the relevant regional occupational standards as detailed in the CVQ
- confirming the authenticity of candidates' submissions for assessment
- providing feedback to assessors on the validity, reliability, practicability and sufficiency of evidence presented for assessment purposes
- monitoring assessment procedures and records of assessment to confirm adherence to agreed procedures and accuracy of records
- maintaining effective relationships with the assessor or assessors, the CVQ Co-ordinator and external verifiers
- dealing with internal disputes and appeals and contributing to the awarding body's external appeals procedure as required
- participating as required in external Quality Network meetings or communications concerning standardisation or review of standards
- participating in moderation activities
- liaising with the external verifier, as required, on centre visits to provide formal feedback on the effectiveness of assessment (CANTA, 2015).

Seven themes were generated from 12 interviews conducted in the six CARICOM states on internal verifiers' experiences in the assessment of CVQ level 1 in secondary schools. The analysis was guided by these themes.

Role of IV in assessment. IVs in five countries outlined varying roles to assure quality in assessment. The internal verifier interviewed in Barbados described a good working relationship and frequent meetings with assessors. The IV indicated, "I will go into an actual assessment to see how involved they are, go in, monitor, give feedback. In planning, check to see if it [plan] is being implemented". The IV also explained that she had one-on-one sessions with newly trained assessors to inform them of what was expected, and the evidence required. She added that newly trained assessors were attached to other functioning assessors.

One IV in Dominica described her role as "monitoring the assessor to ensure that they are doing what they are supposed to". The IV explained, "because of the way the programme is run...we liaise all the time but observe assessment when the teacher is ready". The IV reported that the assessors were not certified and added that

internal verifications were conducted two or three times per term depending on how much work was done. The IV informed that she met with the coordinator at the beginning of the term to decide what was to be done and what was expected, was sometimes involved in the preparation of assessments with the teacher, observed assessments and conversed with CVQ students.

One IV in Jamaica described his role as “checking with the assessor as accurately as possible and ensure guidelines are followed for effectiveness of programme”. Another Jamaican IV explained that he was also the HOD and his role was “varied, [involving] monitoring teachers, vetting assessor scripts, preparing materials and tools for external exams”. Another IV expounded, “I work with teachers who teach CVQ. Make sure they understand the assessment process, look at the development of the portfolio so students can achieve the competency standard, look at assessment methods used”.

Another Jamaican IV explained, “As it is, each teacher has a curriculum, they also assess based on their plans, meetings are held, certain things are in place, assessment methods, assessment tools in place”. The IV added, “I look at what they are doing, lesson plans, standards, assessment of students. I give continuous feedback to ensure what they are doing is within the guide for CVQ”.

One IV in TCI reported “to date I haven’t had the opportunity to put training [Internal Verification] into practice”. The other IV described her role “as simple as a conversation with students and assessors”. She indicated that the process “comes with a lot of communication” and explained that the occupational standards were referenced, and content reviewed. The IV added that she cross-referenced assessments with established standards and curriculum to ensure that they were valid. One IV in T&T indicated that her role was to “ensure that teachers have all the necessary paperwork”. Another explained that her role included “monitoring, checking assessor paperwork, go into [examine] students’ portfolio to ensure dates are matching, sign off on requisition when doing draft estimates”. The IV added, “I have a guidebook, I use the standard [occupational standard], PC [Performance Criteria], Assessment and Delivery Plan, which checks for portfolio pictorial evidence, and guide newly trained assessors in getting paperwork done”.

Adherence to competency-based assessment (CBA). When questioned about adherence to the CBA philosophy, an IV from Dominica explained, “students who do not get it [achieve competence], get more practice. Some students do not get it at one time, students are reassessed at a later date. “The Teacher does afternoon and Saturday classes to ensure students get it [achieve competence]”. Another Dominican IV indicated that she knew they were adhering to CBA because “as I said, when I come in, I look at what they are doing. Because a lot of times when I come in sometimes, I do not tell them I am coming”. The IV added that checklists and rubrics were used for practical and theoretical assessments and students do self-assessments. Feedback was also provided to students.

A Jamaican IV explained that adhering to CBA proved challenging since “CBET as opposed to traditional... is different”. The IV explained that while traditional is time bound, CBET is modular in nature and assessments conducted in-house may not always meet the requirements of CBA. The IV added that “it takes a whole lot to get teachers to adapt to new methods of assessment”. Another Jamaican IV reported that regular assessments were done including group assessments. IVs in T&T generally referred to monitoring assessors to ensure adherence to CBET. One IV indicated that teachers were monitored when completing the IV report as there was a “need to ensure that the teacher can conduct proper assessment”. Another IV indicated that the documents were used as a guide and added that “assessment strategies and work skills” were observed.

Assessment planning. This aspect of the assessment process involves a series of activities such as establishing the assessment context, preparing the candidate and coordinating assessment activities. The IV in Barbados, in addressing the quality of assessment planning explained that he would usually sit with the teacher and talk about it. He added that they “look at feedback to see if we can impact the next cohort”. Another indicated that there were no issues regarding assessment planning and hinted that meetings with set agendas were organised with assessors. Various issues that impacted assessment planning were highlighted by an IV from Dominica such as student absenteeism, lack of parental support, disciplinary problems and students’ challenged socio-economic background. These issues negatively impacted the portfolio building process. Issues such as the bureaucracy involved in acquiring

resources on time were highlighted by an IV from TCI which impacted the clustering and reorganisation of assessments. While IVs from Barbados, Dominica and TCI experienced issues with assessment planning, one from T&T stated that there were no challenges, and that CXC was quite impressed with the level of work taking place, while another indicated that planning “ensures readiness of students before conducting assessments”.

Adequacy and sufficiency of assessments. One IV from Barbados indicated that the “evidence collected is usually adequate, when you look at the end result, you get a pretty good idea of what went on in the classroom from going into assessments. [You] get an idea of what teachers are accomplishing”. An IV from Dominica asserted familiarity with the occupational standards and reiterated being trained and certified before indicating “I am always there on the field in class, always. I will give ideas of how things can be done jointly, group assessments”. The IV added that given students were “not very academic”, they were assessed incrementally for both practical and theory to ensure the adequacy and sufficiency of assessments. The IV also encouraged peer and panel assessments.

A Jamaican IV indicated that she examines the lesson plan, objectives and assessment administered when gauging the adequacy and sufficiency of assessments. One IV spoke about ensuring the validity of assessments, while another indicated:

“The challenge is to conduct CBA in traditional schools. Assessment is taking place as we go along... One of the other major issues is that the CBET programme is very expensive, capacity not there to facilitate, [we] have to be creative. This must be addressed at the holistic level”.

An IV from the TCI indicated that gauging the adequacy and sufficiency of assessments was dependent on the amount of contact time they had with the students and what was required based on the occupational standard. A Trinidadian IV identified various types of assessments employed in attempting to assure that assessments were adequate and sufficient by articulating “They [students] act out using the telephone. It is kind of varied. When we go through their portfolios, they take out pictures, write up resumes, they write letters, and a wide variety of assessments that cover different intelligences”.

Portfolio development and completion. Portfolio assessments showcase skills through a collection of authentic evidence of performance. An IV in Barbados indicated that monitoring student portfolio development and completion was very difficult because of their heavy workload while one in Dominica indicated that it was very easy since students' portfolios were always available in the coordinator's office. This was not the case as indicated by a teacher from the TCI who described the situation as challenging because of a lack of space to store portfolios at the school. Another IV from Jamaica indicated that it was not difficult to monitor students' portfolios, once the teacher gave an indication of the items that students were required to have, he retained and examined them when he had "free time". This methodology was consistent with what was shared by another Jamaican IV who also alluded to checking the portfolios "when they have some time", however, this exercise was described as "tedious at times" since students did not complete assessment activities at the same time. Another Jamaican IV opined that it was very difficult, not for the teacher but for the students as they lacked time management skills and support from parents.

Insufficient time and high student/IV ratios were also identified as factors that negatively impacted monitoring student portfolio development. An IV from T&T described how students' portfolios were monitored and expressed frustration with the challenges encountered. The IV articulated "I would come to the classroom, and I would go through the girls' portfolio. I will sign. That form that came out where we had to put all the assessments to go with the page numbers, it was extremely time consuming the first year we did that". Another IV indicated that the Delivery and Assessment Plan was used to monitor portfolio development and added that she takes "time off to do portfolio".

One Dominican IV provided a very detailed account of how student portfolio development was monitored by articulating "I would say it's a challenge because it means you have to give every portfolio that individual attention. It is not something that is to be rushed". The IV described how she painstakingly monitored each portfolio and provided constructive feedback to students.

Use of external verification results. IVs shared experiences with regard to treating with results obtained subsequent to an external verification. A Barbadian IV indicated

that suggestions made by the EV were implemented, she also looked at feedback and conferred with the assessor if necessary. The IV provided examples of concerns expressed by the EV such as lack of pictorial evidence in the portfolio as well as no evidence to support job attachments. The absence of job attachments (especially for girls) was also highlighted as an issue by an EV in Jamaica as reported by an IV. One IV from Dominica indicated that no written reports were received from the EV and explained that the last cohort of students were not certified since portfolio building was not done. She added that a verbal report was provided by the EV who indicated that the students “were very good” but was unable to deem them competent due to the absence of their portfolios of evidence. This was quite in contrast with what was articulated by the other Dominican IV who explained that she eagerly looked forward to visits from the EV and was grateful for feedback which was used to gauge if improvements were required on the part of the IV.

Two Jamaican IVs informed that teachers received copies of EV reports which were used to inform training, however, one opined that the EV process was not standardised as some mandatory units in the occupational standards were solely generic which created a gap in the particular skill area. An IV from Jamaica related an incident where the EV found that there was missing evidence in the students’ portfolios, however, students were allowed to appeal the decision.

The EV results at a school in TCI revealed that there was “nothing that needs great attention” as reported by an IV.

One IV in T&T informed that teachers shared EV results with their new class, however, she added that the school experienced challenges with regard to receiving CVQ results for some students. Another IV indicated that the “wrong forms” were used at one time, however, only minor issues that they could have addressed were highlighted by the EV.

Constraints in performing internal verification. IVs in all countries highlighted the following constraints that impacted the conduct of internal verification. These included:

- Timetable clashes
- Excessive paperwork
- Insufficient time

- Lack of resources, physical space/procurement issues
- Insufficient/inappropriate PPE
- Lack of guidance
- Heavy workloads
- Lack of support from parents

Timetable clashes was highlighted as one Barbadian IV indicated that the conduct of IVs was not facilitated on the timetable and therefore the conduct of internal verification pulled her away from class time. This was supported by two IVs from Jamaica, one said that the major constraint was “working with my timetable and finding time to work with teachers, I have to make time”, while the other “I have to be doing internal verification and my regular teaching, timing [is] awkward”. The IV added “Other persons who were trained, maybe the timetable could be scheduled with at least one of the areas, which will make it easier for me”. A Trinidadian IV indicated that she experienced constraints in performing her role since she was “an IV and also HOD” and was required to do clinical supervision. Another IV from T&T indicated the time to conduct internal verifications was not scheduled on her timetable and that posed a problem since she was also required to do SBAs with students. The IV added, “The CVQ you see is time consuming, and then too, we don’t have an OJT. It is unfair for her [the teacher] to do all of that [paperwork]. I am overwhelmed”.

IVs also concurred that paperwork was too excessive. One IV from T&T indicated the paperwork was “way too much” and opined that it may serve to demotivate and discourage teachers from doing the CVQ which will be to the detriment of students. The IV informed that an OJT was initially placed at their school to assist with the paperwork but had since left. However, the IV was committed to getting it done and assisted the teacher, given that “the CVQ is a good thing for the girls”.

Another IV from Jamaica spoke about lack of time to conduct internal verification and “also ... lack of resources and the whole aspect of developing physical space is very critical. Another critical aspect is greater support from parents”. Inadequate physical space was also raised by another IV from Jamaica who said “I try to meet standards. These I cannot meet, workshop in small area”. An IV from Jamaica

also indicated “While these programmes are good, much more [physical resources] needs to be put in place”.

An IV from TCI called for greater support at the departmental level as well as a refresher Internal Verification training session and indicated that guidance was required with respect to teacher resources. The IV added:

“Going forward, I get the feeling that students [are] sent to us and we have to work miracles. Everyone needs to be on board. Greater guidance of parents needed. Some students who are not interested “run down certificate” at the end, all in all, not 100%, but we are not doing badly”.

One Jamaican IV reported “There was a breakdown in the IV process” as they were required to have a functioning in-house team which was not established so the “Ministry had to put the programme on hold”, however, he indicated that they were trying to establish a team.

Research question 2 b.(iv). What are the experiences of select administrators in the assessment of the CVQ using the CBET approach?

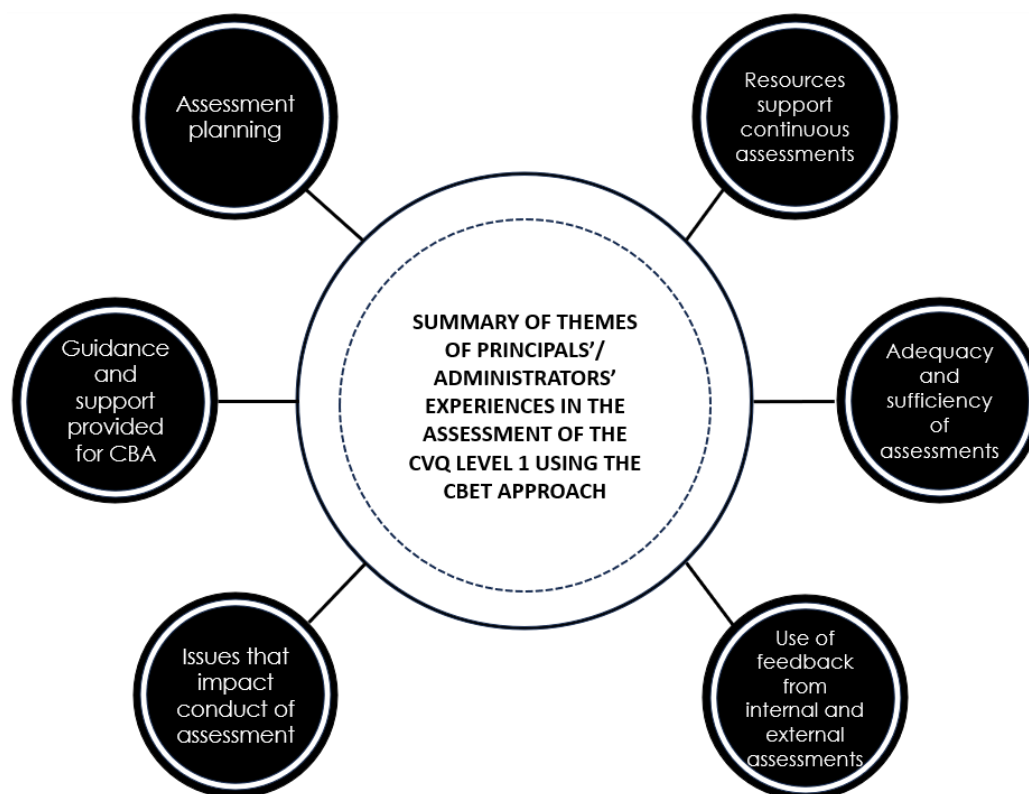


Figure 5. Summary of themes of principals'/administrators' experiences in the assessment of the CVQ using the CBET approach.

As summarised in Figure 5, six major themes were generated from 25 interviews conducted in the six CARICOM states on principals'/administrators' experiences in the assessment of CVQ level 1 in secondary schools. The analysis was guided by these themes.

Assessment planning. Administrators informed of experiences surrounding assessment planning exercises that involved instructors/assessors and students at their schools. One administrator in Barbados alluded to the issue of limited time for quality assessment planning. Another indicated that assessment planning was integrated and done during normal class time, and therefore did not pose an issue. While one administrator indicated that all teachers were assessor trained and so pre and post assessment sessions were done, another indicated that the “main thing” that impacted assessment planning was lack of teacher training and added that the only other issue was student absenteeism.

An administrator from Jamaica indicated that he was not fully aware of what teachers included in an assessment plan, however, he opined that a lack of resources impacted the quality of assessment planning given students' challenged economic backgrounds. Another indicated that general and not individualised assessment planning was done with students, while another informed that issues in relation to negative feedback from assessment planning sessions were never escalated to the level of his office.

Resources to support continuous assessments. One Barbadian administrator indicated that “a lot is left up to the teacher” to ensure that the school had appropriate resources to conduct continuous assessments. Two administrators claimed that it was not difficult to acquire consumables, however, one admitted that the acquisition of large equipment posed a challenge while the other implied that acquisition of resources was not challenging because the Ministry was on board and attached importance to the implementation of the CVQ. Budget planning was described as an approach used by another administrator to ensure that the school had appropriate resources to conduct continuous assessments, as money was available under a line item “CVQ estimates”.

Three Grenadian administrators concurred that it was difficult to ensure that the school had appropriate resources to conduct continuous assessments. One referred to the high cost of materials, while another expressed scepticism about the Ministry fulfilling future requisitions although the CVQ (pilot) programme was initially well resourced. However, she added that the school ascribed to the Self-sufficient TVET School model which generated funds for the CVQ programme.

One Jamaican administrator made reference to administrative challenges such as timeliness in acquiring appropriate resources to conduct continuous assessments, adding that the requisition sometimes came after scheduled assessments, contrastingly, another claimed that good support was provided by the principal when preparing budgets. The need to be creative in acquiring resources for the conduct of continuous assessments was proffered by another administrator as “sometimes it is a challenge”, and further explained that some of the CVQ students were from a low economic background and the “basics” had to be provided. In addition, it was sometimes challenging to procure items from local vendors.

The procurement of resources also posed challenges for administrators in TCI and T&T. One TCI administrator described the process as “sometimes hassling” while another provided a detailed account of challenges encountered given the geographical location of the vendors and bureaucratic procurement procedures. A T&T administrator also expressed challenges with the procurement process since they were required to obtain three quotes from qualified vendors for any consumables and equipment to be purchased.

In general, administrators from T&T described the acquisition of resources for continuous assessment as challenging, and one predicted that it will continue to be so. One administrator claimed that “resources wasn’t a problem before, resources now limited and more controlled”. This claim was verified by two administrators from other schools who explained that an allocation of \$100,000.00 for the initial implementation of the CVQ programme was made about eight years ago, but now they were being asked to “tighten their belts”. Another administrator added that they were allowed a line item within the school’s annual estimates for curriculum consumables.

Guidance and support for CBA. Barbadian administrators alluded to the need for additional training in CBA for assessors. They claimed that they tried as much as possible to use CBA for assessment, however, they were constrained by time and required more knowledge about the approach. It was stated that since “structuring student assessments” proved challenging due to the protracted time periods required, CVQ assessments were scheduled either after internal examinations or at the end of the term. The administrator concluded “I think we need some training, some more training in the CBET approach to assessment”. When questioned about guidance and support given to staff for conducting assessments via CBA, another administrator flippantly indicated that assessors and internal verifiers were trained by the TVET Council. An attempt to highlight the importance and advocate for the use of CBA to teachers/instructors was reported by another administrator in relation to “where the world is going regarding education and training”.

The administrator interviewed in Dominica admitted that she was not confident to lead the implementation of the CVQ because of lack of knowledge. The administrator reported, “I don’t have the confidence to lead information, so I feel personally I lack knowledge to confidently lead the CVQ”. The administrator articulated “We follow the forms. It is more like the tail wagging the dog. We look at the manual and set up exercises”.

Grenadian administrators alluded to obtaining guidance for the conduct of assessments via CBA from Ministry personnel. One administrator informed of lack of guidance from the NTA, which contrasted with another who indicated “most times, NTA provide training to persons with respect to assessment”. Timetabling and the need for training sessions and workshops were highlighted as challenges by another while one disclosed that teachers treated with performance and assessments for CVQ similar to how they treated with the other non-CVQ subjects.

In Jamaica, one administrator revealed that many of their instructors were familiar with CBA given that they attended tertiary level TVET institutions such as the Vocational Training Development Institute (VTDI) and the University of Technology (UTECH). Two administrators also attested to monitoring visits by Ministry personnel where portfolios were examined, and feedback provided. However, as

reported by another administrator, apart from training, the TVET Unit MoE had not been able to do anything else.

One TCI administrator informed that the person with the requisite training in CBA from their institution was charged with the responsibility of assisting teachers and other staff members to use CBA. Another reported that most of the guidance was provided by Ministry personnel and teachers supported each other. One administrator also alluded to “going by the books” when she said that they “really operate based on training” making sure that they adhered to the CSEC and CVQ assessment guidelines as well as ensuring compliance based on the auditing guidelines.

One T&T administrator informed of an OJT who provided administrative support for assessments. Another admitted that no guidance was provided for CBA while one other spoke of sharing soft copies of sample assessment packages with assessors so that they can modify based on the occupational area and observing internal verifiers and teachers during the conduct of assessments to guide them.

Adequacy and sufficiency of assessments. Administrators from Barbados informed of their involvement in gauging the adequacy and sufficiency of assessments, one only made a brief comment, “At our school it was always continuous assessment from day one”. The issue of time was also highlighted since one administrator indicated that this required him to conduct regular checks and also ensure that assessors were not offended by his findings and feedback. Another explained that the coordinator (who was the IV in some instances) was responsible for planning and scheduling assessments and external verification exercises, while another indicated that he conducted internal verifications by monitoring the assessor and conversing with the students. One administrator spoke about taking control and not leaving teachers on their own and claimed that he was always there to monitor. He added that he assisted in documenting the evidence required in an Evidence Guide and led a workshop on portfolio building.

Two Grenadian administrators concurred that gauging the adequacy and sufficiency of assessments will not be difficult but will be time consuming. One added that the teachers would determine the adequacy and sufficiency since they were the ones conducting the assessments. Another administrator admitted lack of knowledge about CVQ assessments and had not yet seen a portfolio.

A Jamaican administrator opined that since they were conducting assessments for the CVQ and not CSEC:

“everything goes back to resources, but as much as possible, the training guide recommended that we do particular exercises during the CVQ verification. Frequency is acceptable, teachers complain of rigorousness of frequency and amount of work required, the recommendations focus on that group”.

Timetable clashes were identified as a challenge in ensuring adequacy and sufficiency of assessments by another administrator who indicated that his workload hindered him from perusing students’ portfolios. This was also highlighted in an interview with an administrator from TCI who explained, “Well because we are so small, I think it’s a plus in a way, so that the IV for this institution is able to do that adequately in terms of frequency”. However, the administrator reported that since there were only two CVQ teachers who were assigned full classes, another person was needed to conduct internal verifications. Another reported that the HOD monitored on a regular basis and ensured that assessments met the standards for both CVQ and CSEC certification.

Time for gauging the adequacy and sufficiency of assessments was also a challenge for administrators in T&T. One administrator repeatedly mentioned time as a challenge, reminding the interviewer that there were other classes timetabled, while another only said that it was “stated very clearly in the programme what they are supposed to accomplish”. Another administrator was very specific with respect to the number of assessments conducted for each student by indicating that as far as possible “we try to do 4 formative and a summative at the end of each unit”. Another spoke of examining end-of-term marks to get an idea of how students were performing.

Issues that impact the conduct of assessments. The following issues identified by administrators in all countries impacted the conduct of assessments:

- Insufficient time
- Excessive paperwork
- Lack of equipment
- Prohibitive cost of items

- Assessment scheduling
- Insufficient collection of evidence by teachers
- Scheduling internal and external verification exercises
- Student absenteeism
- Absence of monitoring
- Principals'/administrators' lack of knowledge about the assessment process

A Barbadian administrator was extremely animated when questioned about issues that impacted the conduct of assessments and commented, “One of the things people complain about is the time”. The administrator indicated that he agreed with the fact that the paperwork was excessive and claimed that he created a two-page document that will serve to reduce the paperwork without reducing the efficacy of the assessment. He opined that the NVQ model was adopted without adequately examining the “shortfalls and their failings” as lessons and markers before implementing the CVQ. The principal opined, “we need to be wary lest we make this thing [CVQ] so complicatedand push the cost [up] andout of sustainability”. Another administrator informed that they were able to control the number of students assessed to avoid any issues that may arise. In contrast, one Jamaican administrator spoke about the issue of scheduling a protracted assessment period due to the number of students to be assessed. Another indicated that “a few of the assessments, even though evidence [was] collected reflected end product and not process”. She added that teachers had been making an effort to correct this.

One Grenadian administrator briefly identified some issues that impacted the conduct of assessments such as lack of equipment and the cost of items, while another admitted that she needed to be more on top of things.

Scheduling arrangements based on the availability of both the IV and EV simultaneously was highlighted as an issue by an administrator from TCI.

Three Trinidadian administrators cited absenteeism of students as a major issue which impacted on IV schedules. Attitude of students was identified as an issue by another. An administrator expressed scepticism about assessments conducted by teachers and proposed monitoring to avoid fraud. She theorised that if the teacher/assessor prepared a faulty instrument that measured the work students completed, the results

can still be considered valid even if monitoring occurred. Another administrator divulged endeavours to conduct assessments “the way it ought to” to prevent issues and added that they tried to do formative and summative assessments for each unit.

Feedback from internal and external assessments. An administrator from Barbados informed that the promotion examination for the CVQ programme was eliminated and portfolio assessment was being used instead. Another administrator reported that the system of examination at the school had been revised to include continuous assessment and CBA. Review of the system of examination was also hinted at by the administrator interviewed in the TCI who indicated that students’ results of continuous assessments were captured in End -of- Term reports for parents. The administrator disclosed the CVQ results of the last batch of CVQ students by indicating “They were as expected [results], no one got full certification. We did not apply for full certification for any of the students” since students did not “push themselves hard enough”.

One Jamaican administrator outlined the benefits of portfolio and continuous assessment by articulating “continuous assessment encourages student and teacher to work continuously to do their best, it helps students see mistakes and correct in a timely manner”. Another Jamaican administrator explained how results of internal assessments were used. He indicated that the best grades were selected and they attempted to break up the assessments into “smaller bits of theory and practice and homework and classwork”.

A Trinidadian administrator disclosed that his school tried to obtain full certification as far as possible and usually did very well based on the results of CXC audits. Another highlighted the benefits of CBA for the students and indicated that although their student population varied from year to year, students’ achievement of competence in unit awards drove them to keep excelling on their trajectory to full certification. The administrator also informed of issues related to receiving students’ results. This was also disclosed by another administrator who indicated that the school was not provided with the “broad sheet” which is a record of students’ achievement that can be kept in the schools’ database.

Summary - Research Question 2

Research question 2 investigated stakeholders' experiences in the delivery and assessment of the CVQ level 1 using the CBET approach. Qualitative data was obtained from students, teachers, internal verifiers, principals/administrators in six countries that have implemented CVQ level 1 in secondary schools.

Research Question 2 a(i) focused on the experiences of select students in the delivery of the CVQ level 1 using the CBET approach. Data obtained from focus group sessions with students revealed varying experiences among students while engaged in CVQ class sessions. The delivery of the CVQ curriculum was constrained by the unavailability of adequate Personal Protective Equipment (PPE) as well as tools and machinery for class sessions. While Grenadian students referred to insufficient PPE, Trinidadian students confirmed the unavailability of adequate tools and machines some of which were in a state of disrepair and Jamaica students confirmed the lack of tools and equipment and the fact that they were expensive to acquire. With the exception of Barbados, the collective experiences of students from five countries highlighted challenges surrounding insufficient time allocated for the delivery of the CVQ.

Students from all countries, with the exception of Dominica acquired inter and intrapersonal as well as other employability skills while pursuing the CVQ. The CVQ enabled Grenadian students to maintain standards and adhere to specific routines when engaging in procedural tasks. In addition, students from T&T described their CVQ classes as stress free.

Students from Barbados, T&T and TCI described experiences in the CVQ classroom that were consistent with experiential learning, in addition, those in Barbados and T&T alluded to the value of engaging in research activities they were tasked with. While students from Barbados, Dominica and T&T described invaluable real-world experiences through internships and On-the –Job training (OJT) for the CVQ, some from Barbados also described the value of simulated classroom activities. Some students from TCI described their experiences with pen and paper activities that they felt were excessive. In addition, students from Grenada and Dominica felt that explanations/clarifications were insufficient.

Research Question 2 a.(ii) investigated the experiences of select teachers in the delivery of the CVQ using the CBET approach. The collective experiences from teachers in all countries pointed to the inadequacy of resources, in particular, consumables, tools and equipment to support the delivery of the CVQ level 1. In addition, teachers from all countries with the exception of Dominica indicated that they were not allocated adequate time to deliver the curriculum for the CVQ level 1.

Teachers from Barbados, Dominica, Grenada and Jamaica made reference to the absence of learner and instructor guides as well as standardised curricula for the delivery of CVQ level 1. Those from Barbados, Grenada, Jamaica and TCI also made reference to the absence of guidelines for delivering the CVQ with one Jamaican teacher describing the level of guidance as minimal. However, excessive paperwork was highlighted as a challenge by teachers from Barbados, TCI and T&T.

There were varied experiences as elicited from teachers in five countries regarding the use of the CBET approach for delivery of the CVQ. Although teachers from all countries, with the exception of Grenada, described delivery strategies and activities consistent with the CBET approach, there was a high level of uncertainty among teachers, as gleaned from the evidence, that they were utilising this approach. One teacher from T&T admitted lack of knowledge about CBET.

While teachers from Barbados, Grenada and T&T described challenges with curriculum delivery due to low levels of literacy in some students as well as absenteeism as stated by Trinidadian teachers, those from Grenada, TCI and Jamaica opined that the level of the CVQ was set too high. Teachers from Grenada and Jamaica suggested training and upgrading of teachers for efficient delivery of the CVQ curriculum.

Research Question 2 a.(iii) investigated the experiences of select internal verifiers in the delivery of the CVQ using the CBET approach. IVs from all countries disclosed that they had been trained but not all have been certified. IVs in Barbados alluded to frequent meetings with assessors and good communication with Ministry personnel. Those from Jamaica described their role as monitoring assessors to ensure that guidelines were being followed. This also held true for IVs in T&T. However, as explained by Jamaican IVs, the focus was on assessment methods, process and completion of assessment instruments. This was not so for IVs from the TCI since they described that they were required to liaise with assessors to ensure all aspects

lesson delivery was going well, and that assessors possessed industry skills currency with respect to the skill being assessed. They also ensured that assessments were valid by cross-referencing with established standards and curriculum.

For the most part, IVs were conducted in an ad hoc manner in all countries and with varying frequencies. IVs were conducted once per term as revealed by the IV in Barbados. All Jamaican IVs revealed that IVs were conducted at different times, for example, once per month, twice annually and annually. This was in stark contrast with one IV from Dominica who revealed that visits were made on a weekly basis, which were sometimes impromptu. This was supported by another IV from Dominica who indicated that there was no set timeline for conducting IVs. It is notable that all IVs alluded to heavy workloads that prevented them from performing their roles in an efficient manner. This was underscored by an IV from Jamaica who also alluded to the absence of quality in the process and the reluctance of teachers.

Supporting each student based on the CBET philosophy was challenging for all IVs due to time constraints. In addition, one IV from Jamaica indicated that adhering to the CBET philosophy was challenging due to already established standard procedures for functioning in the classroom, however, another described how the children worked on their own with guidance from the teacher. Lack of resources and poor students' attitude were highlighted by IVs from TCI as the main challenges in adhering to the CBET philosophy. Unlike many of the IVs interviewed, one IV from Dominica was very explicit in describing how some aspects of CBET such as individualised instruction, feedback and mastery learning were utilised in the classroom. One IV from T&T opined that CBET was not difficult, since it was already being utilised to deliver other TVET subjects.

A general lack of resources and classroom facilities hindered the performance of IVs from Dominica, TCI, Jamaica and T&T. IVs from Barbados, Jamaica, TCI and T&T experienced time constraints in performing their role. Evidence gleaned from IVs, for example, in Jamaica, pointed to the fact that scheduling arrangements for the conduct of IVs were not organised.

One IV from Dominica indicated that lesson planning and delivery was not part of the IV's role, this was in contrast with another IV from Dominica who was very explicit about issues that impacted the quality of lesson planning and delivery.

Instructors in Jamaica were engaged about lesson plans, ensuring that these were done according to the requisite format and that they were compared with the relevant qualification standard. IVs in T&T worked as a team with teachers, and one explained that she ensured that activities in lesson plans were authentic.

Research Question 2 a.(iv) investigated the experiences of select principals/administrators in the delivery of the CVQ via the CBET approach. Data obtained from interviews revealed that the experiences of principals/administrators regarding adherence to the CBET approach were diverse. Principals in Barbados depended on the examination of Schemes of Work to determine whether CBET was employed in the delivery of the CVQ. However, details regarding the criteria to be examined were not disclosed. Other efforts reported included allowing more time on the timetable for CVQ delivery. Some principals/administrators implied that teachers were sufficiently trained to deliver via the CBET approach based on CVQ workshops attended.

Few principals/administrators made specific reference to CBET methodologies such as learning by doing as described by one from Barbados, individualised instruction as described by those from TCI and T&T and mastery learning as described by those from T&T. There was uncertainty regarding whether the CBET approach was being used as expressed by a Jamaican principal/administrator who made reference to the fact that teachers were accustomed to teaching CSEC. Some principals/administrators in T&T also admitted to unfamiliarity with the approach, and the need for clarity.

Principals/administrators described different approaches employed to ensure a school climate that supports the delivery of the CVQ level 1. Four countries, inclusive of Barbados, Grenada, Jamaica and T&T informed of efforts by principals to ensure ownership of the programme who oriented staff, students and parents about the CVQ programme. Interestingly, while principals/administrators from Barbados and Grenada made reference to CBET as ideal for “low achievers”, one in Barbados implied that since his was a top performing school with competent staff, it provided the ideal climate to deliver the CVQ level 1. He added that networking with the community to secure workplace attachment for students also contributed to that ideal climate.

Principals/administrators in countries such as Grenada and Jamaica ensured tools and consumables were available, while those in Grenada and Dominica employed the self-sufficient TVET school model. Some also adjusted timetables to accommodate delivery of the CVQ.

Principals/administrators described various ways of treating with issues that negatively impacted the quality of lesson planning and delivery. Those in Barbados, Grenada, TCI and T&T made reference to the role of the HOD in ensuring quality. Others in Grenada and TCI implied that CVQ teachers were competent in developing lesson plans since they have been trained. However, an administrator from Barbados felt that additional training would assist in addressing issues with lesson planning and delivery. Another principal from Jamaica alluded to the fact that formats for lesson plans varied among institutions and identified components he considered critical such as major objectives, expected outcomes and evaluation. However, another informed of a recent workshop where teachers were exposed to using the 5E Instructional Model to develop lesson plans.

There were deliberate attempts to pursue curriculum-related consultations by some principals/administrators while others were incidental. Curriculum-related consultations in Barbados, Jamaica and TCI were pursued via WhatsApp and Email in collaboration with other schools that offered CVQ programmes. There was also physical movement of students to other approved CVQ centres to facilitate practice in their particular skill areas and teacher exchange in Dominica, TCI and T&T. However, others from Barbados and T&T engaged in consultations at meetings convened by the MOE. Principals/administrators in Grenada engaged in curriculum-related consultations only at the level of the principals.

Various reasons were proffered for challenges experienced in providing authentic work experience, while others informed of efforts to accommodate students or the viability of such activities. Businesses were unwilling to accommodate students at their worksites as reported by some administrators in Barbados. Principals/administrators highlighted deterrents such as the legality issue regarding age of students, limited spaces to accommodate all students on the job, time period for pursuit of work attachments and lack of insurance coverage for students. Those in Jamaica also highlighted unwillingness of students to participate in workplace

attachments. Others spoke about good networking skills with industry in close proximity to the school which assisted in securing work experiences for students. In instances where students could not be accommodated, principals in Barbados, Dominica and T&T organised simulated activities at the school or facilitated work experiences via the Self-Sufficient TVET School model. Past CVQ students had been engaged in workplace attachments in Jamaica, TCI and T&T, however, current students from only one school in Barbados were actively pursuing workplace attachments.

Varying levels of support for the delivery of the CVQ programme were provided by Ministries. The Ministry in Barbados was intimately involved, providing funding for equipment and materials, assessment documentation and guidance on portfolio building as confirmed by one administrator in Barbados. However, this was not so for another who disclosed that only limited support was provided.

Both human and non-human resources required for effective delivery were not put in place before implementation as reported by Dominica and TCI. Principals/administrators in Grenada, Jamaica and TCI suggested that in addition to resources, the Ministry's role should involve frequent monitoring and guidance to ensure adherence to CBET. An administrator in Jamaica suggested that a policy decision on CVQ uptake should be made, but for students who were not performing well.

Guidance and support for delivery via CBET from the Ministry were not consistently implemented across countries. While some principals/administrators in Barbados admitted that they have not done as much as they could have and a large gap existed where that was concerned, some level of sensitisation was done by principals/administrators in Barbados, Jamaica, TCI and T&T. However, they posited that the Ministry should take the leading role in that regard. Interestingly, staff in one school in Barbados was exposed to a CBET workshop in Canada which was sponsored by the Ministry. There were large gaps in CBET practices in some schools as declared by one administrator who advocated for CBET training. Ministries provided guidance for the delivery of the CBET approach as reported by principals/administrators in Grenada, however, this was not so in Dominica. CBET workshops were also

facilitated by some administrators who opined that sufficient information on CBET was provided at NTA facilitated Assessor Training workshops.

Research Question 2 b.(i) investigated the experiences of select students in the assessment of the CVQ level 1 in secondary schools. Students in all countries concurred that they were not afforded adequate time for assessments. However, while Barbadian students attributed time constraints to timetable clashes, students in T&T identified poor time management on the part of the student as one of the causes. Students in Dominica and Grenada experienced challenges with written testing for the CVQ level 1 and reported difficulty remembering the jargon associated with the skill and lack of preparation for written tests. While some Barbadian students had a lot of practice assessments, others did not.

Students from Dominica, Grenada, Jamaica and TCI complained about the lack of resources and facilities for their assessments. Complaints ranged from the absence of, to limited resources and incorrect and malfunctioning tools and equipment. Limited physical space also posed a problem in Jamaica and T&T. Grenadian students identified instances where accidents occurred in workshops whilst not attired in the appropriate PPE.

While group assessments posed challenges for students in Jamaica and Barbados due to social loafing and absenteeism of peers, those from TCI enjoyed the benefits of teamwork during assessments.

Students in Barbados and TCI were intimidated by the presence of assessors and verifiers who observed them during assessments.

Research Question 2 b.(ii) investigated the experiences of select teachers in the assessment of the CVQ level 1 using the CBET approach. Apart from training received from NTAs, TVET Councils and MOEs in some instances, no guidance and support were provided for assessment of the CVQ via CBA in Barbados and for some teachers in TCI. Some teachers in Dominica were neither trained nor certified and there were no internal verifiers in Grenada to assure quality in CBA. However, there was some liaison on CBA among some internal verifiers and teachers in TCI. Teachers in T&T received guidance on CBA from the NTA, however, while some teachers were left on their own when preparing for internal verification, others confirmed support of IVs.

Teachers in Barbados were uncertain about whether they were employing CBA when assessing students since they were required to assess all students simultaneously. However, teachers from all countries conducted continuous assessments, scaffolded students and provided frequent feedback. In addition, Grenadian teachers ensured that authentic assessments were conducted, while those in Jamaica aimed for mastery. CBA allowed teachers in T&T to remain current and therefore better prepared to assess students, it also provided a gauge that students can reference to track their progress.

There was a need to transform the End-of-Term reports produced for CVQ subjects in Barbados to a format that parents can appreciate. Students were intimidated by the presence of assessors and verifiers in Barbados and Grenada. Teachers from all countries used data from assessments to provide feedback to students and to improve delivery. Teachers also engaged in self-reflection when examining data from assessments.

Research Question 2 b.(iii) investigated the experiences of select internal verifiers in the assessment of the CVQ level 1 using the CBET approach. IVs in all five countries outlined varying roles to assure quality in assessment. IVs monitored assessments, checked these against assessment plans to ensure that they were implemented and provided feedback to assessors in all five countries. In addition, IVs in Jamaica and T&T vetted assessor scripts and prepared materials and tools for external examinations. IVs also monitored standards, lesson plans, portfolio development and assessment methods used and provided continuous feedback to assessors. IVs held one on one sessions with newly trained assessors who were paired with more experienced assessors. Assessments were also cross referenced with standards and curriculum in TCI to ensure validity, while IVs in T&T adhered to processes and procedures in a “guidebook” to assure quality in assessments. IVs in Dominica ensured adherence to continuous assessments in CBA, student self-assessments, student reflections and individualised assessments. Group assessments were conducted in Jamaica, however the IV did not always adhere to the requirements of CBA since assessments were mainly summative.

Assessment planning meetings were convened between IVs and assessors in Barbados. Student absenteeism impacted assessment planning activities in Dominica

due to various issues such as lack of support from parents and disciplinary issues as theorised by the IV. Procurement challenges were also experienced in TCI which impacted clustering and reorganisation of assessments. No challenges in assessment planning were experienced in T&T.

IVs in Barbados examined evidence collected by assessors to ensure adequacy and sufficiency of assessments. Given the vocational nature of the CVQ where the ratio of practical to theory is 80/20, the IV in Dominica ensured that students were assessed incrementally to ensure adequacy and sufficiency of evidence. The IV also encouraged peer and panel assessments and group projects (assessments), but there was room for improvement. IVs in Jamaica examined lesson plans, objectives and assessments to ensure validity, adequacy and sufficiency of assessments. In TCI, the standards as well as contact time with student and assessor were used by the IV to ensure that assessments were adequate and sufficient. Different methods of assessments were also employed to ensure that assessors covered different intelligences.

Monitoring student portfolio development and completion proved challenging for IVs in five countries due to heavy workloads, lack of storage space for portfolios and the absence of official allotted time in the IV's schedule for this activity. IVs from all five countries monitored portfolio development and completion in their "free time". The Delivery and Assessment Plan was referenced in monitoring portfolios in T&T; however, the exercise was time consuming. Portfolios were painstakingly monitored over a period of time by the IV in Dominica who feedback provided to students.

IVs shared experiences about results obtained subsequent to an external verification exercise. IVs in Barbados conferred with assessors with a view to implement recommendations made by the EV based on the results of the external verification exercise. As reported by IVs, concerns expressed by EVs included lack of pictorial evidence in portfolio and lack of evidence to support job attachments in Barbados and Jamaica. The absence of portfolios resulted in a cohort of students in Dominica not being certified (as admitted by the IV) since portfolio building was not included as a method of assessment during the course of the programme. However, another IV from Dominica eagerly looked forward to visits from the EV and was

grateful for feedback which was used to gauge if improvements were required on the part of the IV. Results of external verification exercises were used to inform training in Jamaica, but the EV process was not standardised. Students were able to appeal unfavourable decisions made about their competence by EVs in Jamaica. Minor issues that could have been addressed were highlighted by EVs in T&T.

Research Question 2 b.(iv) investigated the experiences of select administrators in the assessment of the CVQ using the CBET approach. Administrators shared experiences surrounding assessment planning exercises involving teachers/assessors and students conducted at their schools. Those in Barbados alluded to limited time for quality assessment planning and assumed that these were conducted since teachers/assessors had been trained. However, lack of teacher training and student absenteeism were the main issues impacting assessment planning. In some Barbados schools however, assessment planning was integrated and done during normal class time so did not pose an issue.

Administrators in Jamaica were not clear about what was included in the assessment plan; however, lack of resources impacted the quality of assessment planning given students' challenged economic backgrounds. General and not individualised assessment planning was done with students in some schools in Jamaica, while in others, issues related to negative feedback from assessment planning sessions had never been escalated to the level of the administrator's office.

In Barbados, the onus was on teachers to ensure that resources were available to conduct continuous assessments. It was not difficult to acquire consumables, however, the acquisition of large equipment proved challenging for some schools but not in others due to the Ministry's intervention. Money was budgeted to accommodate for continuous assessments under a line item for CVQ estimates.

It was difficult to ensure that schools had appropriate resources to conduct continuous assessments in Grenada due to the high cost of materials. The initial CVQ pilot programme was well resourced, as was also the case in T&T, however the allocation had since been significantly reduced. One school in Grenada implemented the Self-Sufficient TVET School model to generate funds.

Administrative challenges such as timeliness in acquiring resources to conduct continuous assessments were experienced in Jamaica. Administrators in Jamaica were

required to be creative in acquiring requisite resources for the conduct of continuous assessments. Procurement challenges were experienced in TCI and T&T due to the location of vendors in TCI and bureaucratic procurement procedures in both countries.

Additional training in CBA was required for assessors in Barbados. Administrators were constrained in adhering to CBA approaches due to limited time and lack of knowledge about the approach and were heavily dependent on the CVQ manual for guidance. This also held true in TCI and Dominica. Assessors and internal verifiers were trained by the TVET Council in Barbados, so no guidance and support were required. However, administrators advocated for the use of CBA by teachers/assessors as they perceived it as an approach that will be included in future education and training reforms.

Ministry personnel provided guidance for the conduct of assessments via CBA in Grenada while the NTA provided training/guidance to others. Timetabling issues needed to be addressed as well as the need for training of teachers/assessors as they treated with performance and assessments for the CVQ in much the same way they did for non-CVQ subjects.

Instructors/assessors in Jamaica were familiar with CBA given that they attended tertiary level TVET institutions in Jamaica. Ministry personnel also conducted monitoring visits where portfolios were examined, and feedback provided. Persons trained in CBA in TCI were given the responsibility to assist teachers and other staff members to use CBA. Most guidance was provided by Ministry personnel and administrators also referenced the CVQ Manual for guidance.

OJTs provided administrative support for assessments in T&T. No guidance on CBA was provided by administrators, however, copies of sample Assessment Packages were shared.

Continuous assessments were conducted in Barbados schools from the inception of the CVQ implementation. Administrators were constrained by time as well as negative reactions from assessors who would sometimes go on the offensive when feedback was provided. Coordinators were responsible for planning and scheduling assessments and external verification exercises. One administrator also

served as an IV, closely monitored teachers, assisted with assessment documentation and conducted workshops on portfolio building.

Gauging the adequacy and sufficiency of assessments in Grenada was not difficult but time consuming. One school administrator was not familiar with portfolio assessment for the CVQ level 1. The training guide was referenced by Jamaican administrators, however, although the frequency of assessments was acceptable, teachers/assessors complained about the rigorousness and the amount of work required when conducting assessments. Timetable clashes hindered the exercise to gauge the frequency and adequacy of assessments in Jamaica and TCI. Time for gauging the adequacy and sufficiency of assessments was also a challenge in T&T and administrators depended on guidelines provided during the training of assessors and verifiers.

The system of examination was reviewed in Barbados, Jamaica and TCI. Portfolio assessments replaced promotional summative examinations in Barbados. Students were assessed incrementally in Jamaica and the best grades were summed to reflect a final mark at the end of the term.

While no students obtained full certification in TCI, schools aimed to achieve full certification for their students as far as possible in T&T. Students were motivated when they achieved competence in individual units. Although performance in one school in T&T was commendable based on CXC standards, others experienced challenges obtaining students' final results and an official record of CVQ level 1 results for inclusion in the schools' database.

Research Question 3

Quantitative Research Question

The following research question and its sub-questions were employed to collect quantitative data in the study:

3. From the perspectives of (i) select students (ii), select teachers and (iii) select internal verifiers, to what extent is the CBET approach employed for both delivery and assessment for the CVQ level 1?

This question investigated the extent to which the CBET approach was employed for delivery and assessment for the CVQ level 1 from the perspective of students, teachers and internal verifiers. Student questionnaires sought data from areas

including demographics, the degree of understanding of the benefits of the CVQ, awareness of safety requirements for the occupational area, adequacy of resources, curriculum delivery and assessment practices. Teacher questionnaires elicited responses on demographics, adequacy of physical and teacher resources, teachers' capacity, curriculum delivery and assessment practices. Internal verifier questionnaires sought data on demographics, resources and internal verifier practice.

To assess whether the actual implementation of strategies was consistent with the CBET approach, responses were gathered using a 5-point Likert scale. Responses reflecting the perceived degree of strength of implementation of the CVQ strategies were indicated by 'strongly agree (5)', 'agree (4)', 'uncertain (3)', 'disagree (2)', 'strongly disagree (1)'.

Sub-question 3 (i). From the perspective of select students, to what extent is the CBET approach employed for both delivery and assessment for the CVQ level 1?

Student data. Means and grand mean scores as well as standard deviations were generated from the responses of students using the Statistical Package for Social Sciences Version 23 (SPSS 23.0) for all variables: understanding of the benefits of the CVQ, awareness of safety requirements for the occupational area, satisfaction with the knowledge and experience gained in the CVQ level 1 programme, resources to support CBET, curriculum delivery and assessment practices. A one-way Analysis of Variance (ANOVA) and the Tukey Post-Hoc tests were conducted to determine significant differences among and between various countries respectively. Significant differences were reported at $p < 0.05$.

To examine country differences regarding delivery/instructional and assessment strategies, chi-square tests were conducted. The 95% Confidence level was used to test the main outcome variables.

In analysing means generated from the questionnaires, a scoring rubric was developed using the formula (Highest point in the Likert scale – Lowest point in the Likert scale)/the number of levels used. For the Five-point Likert scale, a difference of 0.8 was used to yield the scoring rubric presented in Table 29.

Table 29

Summary of Scoring Rubric

Very low	Low	Neutral	Moderate	High
1 – 1.80	1.81 – 2.60	2.61 – 3.40	3.41 – 4.20	4.21 – 5.00

Students in each country of the study were asked to indicate: the extent of their understanding of the benefits of the CVQ, awareness of safety requirements for occupational areas pursued and their level of satisfaction with knowledge and experience gained in the CVQ level 1 programme. The mean scores, grand mean scores, and associated standard deviations of student responses are presented in Table 30.

Table 30

Summary of Mean Scores and Standard Deviations of Students' Understanding of the Benefits of the CVQ, Awareness of Safety Requirements of the CVQ and Satisfaction with Knowledge and Experience Gained in the CVQ Programme in the Six CARICOM states (N = 389)

Country	Barbados	Dominica	Grenada	Jamaica	T&T	TCI	Grand Mean (SD)
Variables	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	
Understanding the benefits of CVQ	4.12 (.746)	4.75 (.444)	4.13 (.732)	3.87 (1.19)	4.20 (.899)	4.31 (1.01)	4.11 (.983)
Awareness of safety requirements for occupational area	4.44 (.705)	4.45 (.826)	4.23 (.931)	4.48 (.865)	4.73 (1.02)	4.52 (.783)	4.48 (.836)
Satisfaction with knowledge and experience gained	4.54 (.542)	4.70 (.470)	4.00 (1.29)	3.90 (1.40)	4.35 (1.23)	4.18 (1.04)	4.16 (1.16)

Understanding the benefits of the CVQ. As indicated in Table 30, the Grand Mean score of 4.11 and a standard deviation of .983, suggested a moderate degree of understanding of the benefits of the CVQ among students in all countries. The analysis revealed that students in Dominica reported the highest mean score ($m =$

4.75) and a relatively small standard deviation of (.444), which suggested a high degree of consensus among those students on understanding of the benefits of the CVQ among students in that country. On the contrary, students in Jamaica reported the lowest mean score ($m = 3.87$) and the highest standard deviation of 1.19, which suggested that although the degree of understanding of the CVQ was moderate, there was wider disagreement among those students regarding this construct. The data also revealed that although the mean score reported for students of T&T was high ($m = 4.31$), there was much divergence among the students regarding their degree of understanding of the CVQ, as evidenced by a relatively high standard deviation of 1.01. The descriptive statistics revealed that the moderate mean scores and relatively low standard deviations reported by students in Barbados ($m = 4.12$, $SD = .746$), Grenada ($m = 4.13$, $SD = .732$) and TCI ($m = 4.20$, $SD = .899$) suggested a moderate degree of understanding of the benefits of the CVQ and similar divergence of views among students in those countries.

Awareness of safety requirements for the occupational area. As indicated in Table 30, the grand mean score was 4.48 with a standard deviation of .836. This suggested a high level of awareness of safety requirements for the occupational areas pursued by students and generally low dissension among students for the occupational areas they pursued. The highest mean score was reported by students from TCI ($m = 4.73$) and a standard deviation of 1.02. This indicated that there were divergent views regarding the level of awareness of safety requirements for occupational areas in TCI. High mean scores and relatively low standard deviations were reported in all countries including T&T ($m = 4.52$, $SD = .783$), Jamaica ($m = 4.48$, $SD = .865$), Dominica ($m = 4.45$, $SD = .826$) and Barbados ($m = 4.44$, $SD = .705$). However, students in Grenada reported the lowest mean score ($m = 4.23$) and the highest standard deviation (.931) which suggested dissension among students regarding the level of awareness of safety requirements for the occupational areas pursued.

Satisfaction with the knowledge and experience gained in the CVQ level 1 programme. As indicated in Table 30, the grand mean score was 4.16 with a standard deviation of 1.16. This suggested moderate levels of satisfaction among students in all six countries regarding the knowledge and experience gained in the CVQ level 1 programme. The high standard deviation indicated lack of consensus among students in all countries.

Dominican students reported the highest mean score ($m = 4.70$) and the lowest standard deviation (.470) among all countries, which suggested a high level of satisfaction and the least differences of views concerning the knowledge and experience gained in the CVQ programme. The lowest mean score was reported by students from Jamaica ($m = 3.90$), which suggested a moderate level of satisfaction with the knowledge and experience gained in the CVQ level 1 programme. They also reported a comparatively high standard deviation of 1.40, which was indicative of lack of consensus. Interestingly, students from Barbados also reported a moderate mean score ($m = 4.54$), however the relatively small standard deviation (.542) implied consensus among students. Although moderate mean scores were reported by students from all other countries, viz., Grenada ($m = 4.00$, $SD = 1.29$), T&T ($m = 4.18$, $SD = 1.04$) and TCI ($m = 4.35$, $SD = 1.23$), the comparable high standard deviations suggested differences among students in those countries in respect to their satisfaction with the knowledge and experience gained in the CVQ level 1 programme.

Tests of statistical significance. One-way ANOVA, Tukey post-hoc, Chi-Square.

One-way ANOVA F-Test of students' responses regarding general requirements for the CVQ level 1 programme. Further analysis was done using one-way ANOVA to determine whether there were significant differences among countries in students' understanding of the benefits of the CVQ, awareness of safety requirements for occupational areas pursued and students' satisfaction with knowledge and experience gained in the CVQ level 1 programme. The null hypothesis was tested at the 0.05 probability level to determine the degree of statistical significance among the mean perception scores of students from the six CARICOM states for the three variables.

Null Hypotheses

1. Ho: There is no significant difference in the understanding of the CVQ level 1 among students in the six CARICOM states from the perspectives of the students.

$$Ho: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

2. Ho: There is no significant difference in awareness of safety requirements for CVQ occupational areas pursued in the six CARICOM states from the perspectives of the students.

$$Ho: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

3. Ho: There is no significant difference in satisfaction with the knowledge and experience gained in the CVQ level 1 programme in the six CARICOM states from the perspectives of the students.

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

Table 31

Summary of ANOVA Test: Mean Scores and F- values of Students' Understanding of the Benefits of the CVQ, Awareness of Safety Requirements and Satisfaction with Knowledge and Experience Gained in the CVQ Level 1 Programme in the Six CARICOM States

Country	Barbados	Dominica	Grenada	Jamaica	T&T	TCI	F value	Sig.
Understanding of benefits of the CVQ	4.12	4.75	4.13	9.87	4.20	4.31	3.73	.003
Awareness of safety requirements for occupational areas	4.44	4.45	4.23	4.48	4.73	4.52	1.263	.279
Satisfaction with the knowledge and experience gained in the CVQ level 1 programme	4.54	4.70	4.00	3.90	4.18	4.35	3.514	.004

Note. 1. Degrees of freedom for the variable “understanding of CVQ benefits” = (5, 383), n = 388 2. Degrees of freedom for the variable “awareness of safety requirements for occupational areas” = (5, 383), n = 388 3. Degrees of freedom for the variable “satisfaction with the knowledge and experience gained in the CVQ level 1 programme” = (5, 382), n = 387.

Understanding of benefits of the CVQ. As shown in Table 31, there was a statistically significant difference among countries as demonstrated by one-way ANOVA $F(5, 383) = 3.73, p = .003$. The hypothesis was therefore rejected. The findings suggested that there was a statistically significant difference among the six CARICOM States in students' understanding of the benefits of the CVQ programme. The Tukey post-hoc test was administered pairwise to the means scores reported by students of the six CARICOM states. All except one pair of countries reported non-statistically significant differences. However, the Tukey post-hoc test showed that there was a significant difference ($p = .003$) between Dominica ($m = 4.75$) and Jamaica

($m = 3.87$). This suggested that students from Dominica had a better understanding of the benefits of the CVQ programme than their counterparts in Jamaica.

Awareness of safety requirements for occupational areas pursued. There was no statistical significant difference among the six CARICOM States as demonstrated by one-way ANOVA $F(5, 383) = 1.263, p = .279$. Therefore, the null hypothesis was accepted. This means that the data set has provided insufficient data to conclude that there is a difference among students' awareness of safety requirements for the CVQ in occupational areas pursued.

Satisfaction with the knowledge and experience gained in the CVQ level 1 programme. There was a statistically significant difference among countries as demonstrated by one-way ANOVA $F(5, 382) = 3.514, p = .004$. The hypothesis was therefore rejected. The findings suggested that there was a statistically significant difference among countries in students' satisfaction with the knowledge and experience gained in the CVQ level 1 programme.

Table 32

Results of Tukey Post-Hoc Test for Satisfaction with Knowledge and Experience Gained in the CVQ Level 1 Programme

Country	Mean Score	Country	Mean Score	P value*
Barbados	4.54	Jamaica	3.90	.013
Dominica	4.70	Jamaica	3.90	.04

Note. Tukey Post-Hoc Test.

As indicated in Table 32, the Tukey post-hoc test showed that there was a significant difference ($p = .013$) between Barbados ($m = 4.54$) and Jamaica ($m = 3.90$) and a significant difference ($p = .04$) between Dominica ($m = 4.70$) and Jamaica. This suggested that students' satisfaction with the knowledge and experience gained in the CVQ level 1 programme in Barbados and Dominica were significantly higher than students in Jamaica.

Students in the study were also asked to indicate the extent to which the CBET approach was employed for both delivery and assessment of the CVQ level 1 in

relation to the variables: resources to support CBET, curriculum delivery and assessment practices.

Table 33 presents the means and standard deviations students' responses in six CARICOM countries in respect to the main variables: resources to support CBET, curriculum delivery, and assessment practices. The analysis focused on the descriptive statistics of these main variables and associated sub-variables.

Table 33

Summary of Students' Mean Scores and Standard Deviations by Country for the Variables: Resources to Support CBET, Curriculum Delivery and Assessment Practices (N = 389)

Country	Barbados	Dominica	Grenada	Jamaica	T&T	TCI
Sub-variables	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Resources to support CBET						
Tools & equipment	3.86 (1.06)	3.50 (1.00)	4.15 (.745)	3.81 (1.31)	3.81 (1.52)	4.13 (.967)
Maintenance of tools & equipment	4.08 (.944)	4.30 (.801)	4.13 (.801)	3.88 (1.10)	3.81 (1.44)	3.88 (1.13)
PPE	4.34 (.872)	3.90 (1.37)	3.69 (1.10)	3.83 (1.22)	4.04 (1.56)	4.15 (1.05)
Occupational standards	3.74 (.723)	3.70 (1.12)	3.10 (1.27)	3.56 (1.23)	4.12 (1.07)	4.02 (.918)
Curriculum content	3.56 (1.09)	2.95 (1.27)	3.54 (1.21)	3.52 (1.09)	3.62 (1.52)	3.72 (1.15)
Learner guides	3.46 (1.11)	3.45 (1.43)	3.46 (1.07)	3.48 (1.18)	4.35 (1.05)	3.91 (1.14)
Grand mean (SD)	3.84 (.468)	3.63 (.534)	3.67 (.509)	3.67 (.798)	3.97 (.722)	3.95 (.732)
Overall Grand Mean (SD)	3.81 (.704)					
Curriculum delivery						
Sufficiency of periods	3.30 (1.24)	3.50 (1.76)	2.95 (1.65)	3.20 (1.41)	3.46 (1.07)	3.62 (1.07)
Dominance of theory	3.02 (1.20)	4.20 (.894)	2.65 (1.02)	2.82 (1.23)	2.95 (1.33)	2.79 (1.13)

Dominance of practical	2.30 (1.16)	3.20 (1.50)	2.32 (1.20)	1.98 (.957)	1.68 (1.14)	2.04 (.978)
Individualised instruction	4.46 (.734)	4.45 (.510)	4.44 (.968)	4.29 (1.16)	4.77 (.430)	4.52 (.687)
Teamwork	3.92 (1.30)	4.04 (1.27)	3.72 (1.31)	3.84 (1.32)	3.04 (1.14)	3.65 (1.22)
Awareness of delivery plans	3.04 (1.10)	3.70 (.733)	3.85 (1.04)	3.27 (1.42)	4.08 (1.35)	3.70 (1.11)
Enthusiasm about tasks and projects	4.28 (.858)	4.70 (.571)	4.21 (.894)	3.87 (1.54)	4.58 (1.13)	4.37 (.860)
Industry work experience	2.92 (1.14)	3.60 (1.18)	3.67 (1.22)	3.24 (1.55)	3.15 (1.95)	3.47 (1.31)
Grand mean (SD)	3.40 (.508)	3.92 (.208)	3.54 (.304)	3.35 (.591)	3.44 (.579)	3.53 (.387)
Overall Grand mean (SD)	3.47 (.493)					
Assessment practices						
Assessment planning	3.82 (1.22)	3.75 (.967)	3.18 (1.33)	3.50 (1.41)	4.50 (.762)	3.95 (1.06)
Access to OS	3.80 (.857)	4.00 (.795)	3.21 (1.17)	3.12 (1.56)	3.69 (1.01)	3.95 (.958)
Feedback from teacher	4.48 (.677)	4.55 (.510)	4.21 (1.05)	4.02 (1.35)	4.00 (1.54)	4.33 (.940)
Use of feedback from assessment	4.34 (.961)	4.65 (.587)	4.23 (1.08)	4.16 (1.31)	3.85 (1.75)	4.51 (.905)
Mgt. & org. of portfolio	4.38 (.697)	3.95 (1.57)	3.72 (1.12)	3.79 (1.27)	4.04 (1.14)	4.30 (.748)
Self-assessments	3.14 (1.30)	3.35 (1.04)	3.21 (1.21)	3.43 (1.31)	4.04 (1.14)	3.83 (1.15)
Peer assessment	3.42 (1.26)	4.70 (.571)	3.77 (1.15)	3.67 (1.33)	3.54 (1.70)	3.87 (1.37)
Access to assessment records	3.68 (1.13)	3.70 (.801)	3.46 (1.21)	3.28 (1.40)	3.81 (1.16)	3.83 (1.49)

Reflections	3.54 (1.34)	3.00 (1.29)	2.79 (1.32)	2.82 (1.57)	3.15 (1.69)	3.16 (1.30)
Repeat assessments	3.98 (1.00)	4.40 (.883)	3.33 (1.17)	3.36 (1.52)	3.31 (2.31)	4.13 (1.04)
Familiarity with role of IV	3.80 (1.19)	3.90 (.718)	2.64 (1.32)	3.26 (1.26)	3.65 (1.32)	3.76 (1.11)
Familiarity with role of EV	3.68 (1.20)	2.55 (.999)	2.72 (1.19)	3.03 (1.43)	3.27 (1.61)	3.66 (1.06)
Grand mean (SD)	3.83 (.545)	3.87 (.220)	3.37 (.690)	3.45 (.894)	3.69 (.591)	3.93 (.635)
Overall Grand mean (SD)	3.69 (.742)					

Resources to support CBET. As indicated in Table 33, there was a moderate overall grand mean score of 3.81 and a standard deviation of .704. This suggested that in general, students believed resources were adequate to support the implementation of the CVQ via the CBET approach. The analysis showed that TCI had the highest mean score ($m = 3.97$) with a standard deviation of .722. However, although the country with the lowest mean score was Dominica ($m = 3.63$), the relatively low standard deviation of .534 suggested greater consensus among students than those in TCI. In addition, although all mean scores of all countries were moderate, there was greater divergence of beliefs with regard to the adequacy of resources in TCI, T&T and Jamaica as evidenced by their comparably high standard deviations of (.722), (.732) and (.798) respectively.

Curriculum delivery. Table 33 shows that there was an overall moderate mean score of 3.47 and a standard deviation of .493. This suggested that students selected responses for curriculum delivery that were in keeping with the requirements of delivery for the CVQ via the CBET approach. The analysis showed that Dominica had the highest mean score ($m = 3.92$) and a low standard deviation of .208. This suggested greater consensus among Dominican students regarding curriculum delivery constructs. The country with the lowest mean score was Jamaica ($m = 3.35$) and a standard deviation of .591, which suggested a level of uncertainty among students regarding the extent to which curriculum delivery was in keeping with the requirements for the CVQ and CBET given this neutral score. A neutral mean score was also reported for Barbados ($m = 3.40$).

Assessment practices. As indicated in Table 33, there was a moderate grand mean score of 3.69 and a standard deviation of .742. This indicated that in general, students perceived assessment approaches in keeping with CBA. The analysis revealed that T&T had the highest mean score ($m = 3.93$) and a standard deviation of .635. The country with the lowest mean score was Grenada ($m = 3.37$), with a standard deviation of .690, which suggested a level of uncertainty among students regarding the extent to which assessment approaches used by their teachers were consistent with CBA, given the neutral mean score.

One-way ANOVA F-Test of students' responses regarding resources to support CBET, curriculum delivery and assessment practices. Further analysis was done using one-way

ANOVA to determine whether there were differences in the variables resources to support CBET, curriculum delivery and assessment practices in the CVQ level 1 programme among the countries. The null hypothesis was tested at the 0.05 probability level to determine the statistical significance among the mean perception scores of students in the six CARICOM states for the three variables:

1. Ho: There is no significant difference in students' perceptions of the adequacy of resources to support the implementation of the CVQ via the CBET approach in the six CARICOM States.

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

2. Ho: There is no significant difference in students' perceptions regarding the extent to which curriculum delivery was in keeping with the requirements of the CVQ via the CBET approach in the six CARICOM States.

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

3. Ho: There is no significant difference in students' perceptions regarding the extent to which assessment approaches were in keeping with the requirements of CBA for the CVQ in the six CARICOM states.

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

Table 34

Summary of Students' Means Scores by Country and F-values of the Adequacy of Resources to Support CBET and the Extent to which the CBET Approach is Employed for Delivery and Assessment of the CVQ

Country	Barbados	Dominica	Grenada	Jamaica	T&T	TCI	F value	Sig.
Resources	3.84	3.63	3.67	3.67	3.95	3.97	3.03	.01
Curriculum Delivery	3.40	3.92	3.54	3.35	3.53	3.44	5.67	.000
Assessment	3.83	3.87	3.37	3.45	3.93	3.69	8.16	.000

Note. 1. Degrees of freedom for the variable "Adequacy of resources to support the implementation of the CVQ via the CBET approach" = (5, 383), n = 388 2. Degrees of freedom for the variable "The extent to which curriculum delivery was in keeping

with the requirements of the CVQ via the CBET approach' = (5, 366), $n = 388$ **3.** Degrees of freedom for the variable "Assessment for the CVQ via CBA" = (5, 382), $n = 388$.

Resources to support CBET. As indicated in Table 34, there was a statistically significant difference between countries as demonstrated by one-way ANOVA $F(5, 383) = 3.03$, $p = .011$. The hypothesis was therefore rejected. The findings suggested that there was a statistically significant difference in students' perceptions in the six CARICOM states of the adequacy of resources to support the implementation of the CVQ via the CBET approach.

Table 35

Results of Tukey Post-Hoc Test for Students - Resources to Support CBET

Country	Mean Score	Country	Mean score	P value*
T&T	3.95	Jamaica	3.67	.01

Note. Tukey Post Hoc Test.

As indicated in Table 35, a Tukey post hoc test was conducted and indicated that there was a significant difference ($p=.01$) between Jamaica ($m = 3.67$) and T&T ($m = 3.95$). This suggested that there was higher consensus among students in T&T that resources were adequate to support the implementation of the CVQ than those in Jamaica. There was no statistically significant difference between the other countries.

Curriculum delivery. As can be gleaned from Table 36, there was a statistically significant difference between countries as demonstrated by one-way ANOVA $F(5, 366) = 5.67$, $p = .000$. The hypothesis was therefore rejected. The findings suggested that there was a statistically significant difference in students' perceptions of the extent to which curriculum delivery was in keeping with the requirements of the CVQ via the CBET approach.

Table 36

Results of Tukey Post-Hoc Test for Curriculum Delivery

Country	Mean Score	Country	Mean Score	P value*
Dominica	3.92	Barbados	3.40	.05
Dominica	3.92	Jamaica	3.35	.001
Dominica	3.92	TCI	3.44	.01
Dominica	3.92	T&T	3.53	.01

Note. Tukey Post-Hoc Test.

A Tukey post hoc test was done (Table 36) and showed that there was a significant difference between Barbados and Dominica ($p = .05$), Dominica and Jamaica ($p = .001$), Dominica and TCI ($p = .01$) and Dominica and T&T ($p = .01$). These findings suggested that there was significantly higher agreement among students from Dominica ($m = 3.92$) than Barbados ($m = 3.40$), TCI ($m = 3.44$), T&T ($m = 3.53$) and Jamaica ($m = 3.35$), that curriculum delivery was in keeping with the requirements for the CVQ via the CBET approach. There was also significantly higher agreement among students from T&T ($m = 3.53$) than Jamaica ($m = 3.35$). There was no statistically significant difference between students from Grenada and those from Barbados.

Assessment practices. As indicated in Table 37, there was a statistically significant difference between countries as demonstrated by one-way ANOVA $F(5, 382) = 8.16$, $p = .000$. The hypothesis was therefore rejected. The findings suggested a statistically significant difference in students' perceptions in the six CARICOM states of the extent to which assessment practices for the CVQ was in keeping with CBA. These differences were explored by the Tukey post-hoc test as shown in Table 37.

Table 37

Results of Tukey Post-Hoc Test for Assessment Practices

Country	Mean Score	Country	Mean Score	P value*
T&T	3.93	Jamaica	3.45	.01
Barbados	3.83	Grenada	3.37	.03
T&T	3.93	Grenada	3.37	.000

Note. Tukey Post-Hoc Test.

A Tukey post-hoc test showed that there was a significant difference between Barbados and Grenada ($p = .03$), Grenada and T&T ($p = .000$) and Jamaica and T&T ($p = .01$). These findings suggested that there was higher agreement on the extent to which assessment practices for the CVQ was in keeping with CBA among students from Barbados ($m = 3.83$) than Grenada ($m = 3.37$). There was also higher agreement among students from T&T ($m = 3.93$) than those from Jamaica (3.45) and Grenada ($m = 3.37$).

Delivery strategies. To determine if there were differences in the delivery/instructional strategies employed among the six CARICOM states, the Pearson's Chi-square test was used.

Table 38

Summary of Chi-Square Statistics for Delivery Strategies Selected by Students in the Six CARICOM States

Countries	Barbados		Dominica		Grenada		Jamaica		T&T		TCI		All countries N = 389		F-value	P-value*
	n = 50		n = 20		n=39		n=126		n =128		n = 26					
Delivery strategies	n	%	n	%	n	%	n	%	n	%	n	%	n	%		
Lecture	13	26.0	15	75.0	19	48.7	63	50.0	61	47.7	19	73.1	190	48.8	22.17	.001
Lecture discussion	31	62.0	13	65.0	25	64.1	83	65.9	70	54.7	19	73.1	241	62.0	5.20	.391
Brainstorming	29	58.0	11	55.0	22	56.4	59	46.8	66	51.6	22	84.6	209	53.7	13.12	.02
Video shows	15	30.0	15	75.0	15	38.5	94	74.6	28	21.9	17	65.4	184	47.3	87.66	.001
Class discussion	46	92.0	18	90.0	38	97.4	112	88.9	108	84.4	26	100.0	348	89.5	9.59	.0888
Practical demonstration	44	88.0	16	80.0	29	74.4	104	82.5	93	72.7	23	88.5	309	79.4	8.50	.131
Small group discussion	34	68.0	17	85.0	11	28.2	84	66.7	71	55.5	21	80.8	238	61.2	31.17	.001
Case studies	05	10.0	09	45.0	18	46.2	32	25.4	19	14.8	00	0.0	83	21.3	36.31	.001

Role play/ simulation	31	62.0	11	55.0	11	28.2	75	59.5	46	35.9	06	23.1	180	46.3	30.73	.001
Field trips	26	52.0	04	20.0	19	48.7	17	13.5	30	23.4	02	7.7	98	25.2	44.39	.001
Peer tutoring, coaching	19	38.0	14	70.0	04	10.3	29	23.0	49	38.3	12	46.2	127	32.6	31.55	.001

Note. Chi-square test.

Lecture. As indicated in Table 38, the selection of lecture as a delivery/instructional strategy by CVQ students used by their teachers ranged from 26.0% in Barbados to 75.0% in Dominica. Overall, 48.8% of students across the six CARICOM states selected lecture as a delivery strategy. The result of the chi-square test indicated that the differences in lecture among the countries was statistically significant (χ^2 (DF=5, $N = 389$) = 22.17, $p < .001$).

Lecture discussion. As indicated in Table 38, the selection of lecture discussion by CVQ students as a delivery/instructional strategy used by their teachers ranged from 54.7% in T&T to 73.1% in TCI. Overall, 62.0% of students across the six CARICOM states selected lecture discussion, however the result of the Chi square test was not statistically significant.

Brainstorming. The selection of brainstorming by CVQ students as a delivery/instructional strategy used by their teachers ranged from 46.8% in Jamaica to 84.6% in TCI (Table 38). Overall, 53.7% of the CVQ students across the six CARICOM states selected brainstorming. The result of the Chi-square test showed that the differences in brainstorming among the countries was statistically significant χ^2 (DF = 5, $N = 389$) = 13.12, $p < .02$).

Videos. The result of the Chi-square test showed that the differences in the use of videos among the countries was statistically significant χ^2 (DF = 5, $N = 389$) = 87.66, $p < .001$).

As indicated in Table 38, the selection of video shows by CVQ students as a delivery/instructional strategy used by their teachers ranged from 21.9% in T&T to 74.6% in Jamaica. Overall, 47.3% of the CVQ students across the six CARICOM states selected video shows as a delivery strategy.

Class discussion. As indicated in Table 38, the selection of class discussion by CVQ students as a delivery/instructional strategy used by their teachers ranged from 84.47% in T&T to 100.0% in TCI. Overall, 89.5% of students across the six CARICOM states selected class discussion, however the result of the Chi-square test was not statistically significant.

Practical demonstration. As indicated in Table 38, the selection of demonstration by CVQ students as a delivery/instructional strategy used by their teachers ranged from 74.4% in Grenada to 88.5% in TCI. Overall, 79.4% of students across the six CARICOM states selected demonstration, however the result of the chi-square test was not statistically significant.

Small group discussion. As indicated in Table 38, the selection of small group discussion by CVQ students as a delivery/instructional strategy used by their teachers ranged from 28.2% in Grenada to 85.0% in Dominica. Overall, 61.2% of students across the six CARICOM states selected small group discussion. The result of the chi-square test indicated that the differences in small group discussion among the countries was statistically significant χ^2 (DF = 5, $N = 389$) = 31.17, $p < .001$.

Case studies. As a delivery strategy, the result of the chi-square test showed that the differences in case studies among the countries was statistically significant χ^2 (DF = 5, $N = 389$) = 36.31, $p < .001$. The selection of case studies by CVQ students as a delivery/instructional strategy used by their teachers ranged from 0.0% in Dominica to 46.2% in Grenada (Table 38). Overall, 21.3% of the CVQ students across the six CARICOM states selected case studies.

Role playing/simulation. As indicated in Table 38, the selection of role playing/simulation by CVQ students as a delivery/instructional strategy used by their teachers ranged from 23.1% in TCI to 62.0% in Jamaica. Overall, 46.3% of students across the six CARICOM states selected role playing/simulation. The result of the chi-square test indicated that the differences in role playing/simulation among the countries was statistically significant χ^2 (DF = 5, $N = 389$) = 30.73, $p < .001$.

Field trips. The selection of field trips by CVQ students as a delivery/instructional strategy used by their teachers ranged from 7.7% in TCI to 52.0% in Barbados (Table 38). Overall, only 25.2% of the CVQ students across the six CARICOM states selected field trips. The result of the chi-square test showed that

the differences in field trips among the countries was statistically significant χ^2 (DF = 5, $N = 389$) = 44.39, $p < .001$).

Peer tutoring/coaching. As indicated in Table 38, the selection of peer tutoring/coaching by CVQ students as a delivery/instructional strategy used by their teachers ranged from 10.3% in Grenada to 70.0% in Dominica. Overall, 32.6% of students across the six CARICOM states selected peer tutoring/coaching. The result of the chi-square test indicated that the differences in peer tutoring/coaching among the countries was statistically significant χ^2 (DF = 5, $N = 389$) = 31.55, $p < .001$).

Assessment strategies. To determine if there were differences in the assessment strategies employed among the six CARICOM states, the Pearson's chi-square test was used.

Table 39

Summary of Chi-Square Statistics for Assessment Strategies Selected by Students in the Six CARICOM States

Countries	Barbados		Dominica		Grenada		Jamaica		T&T		TCI		All countries N = 389		F-value	P-value*
	n = 50		n = 20		n=39		n=126		n =128		n = 26					
Assessment strategies	n	%	n	%	n	%	n	%	n	%	n	%	n	%		
Oral questioning/ Presentations	34	68.0	20	100.0	23	59.0	79	63.2	97	75.8	18	69.2	271	69.8	15.67	.01
Written testing	35	70.0	20	100.0	24	61.5	81	64.8	85	66.4	21	80.8	266	68.6	13.00	.02
Observation / Practical demonstration	46	92.0	16	80.0	27	69.2	86	68.8	95	74.2	16	61.5	286	73.7	13.04	.131
Product examination	21	42.0	09	45.0	21	53.8	49	39.2	54	42.2	12	46.2	166	42.8	2.79	.731

Portfolio assessment	41	82.0	15	75.0	24	61.5	86	68.8	115	89.5	22	84.6	303	78.1	24.09	.001
Professional dis- cussion	23	46.0	09	45.0	11	28.2	47	37.6	56	43.8	11	42.3	157	40.5	4.27	.510
Project	14	28.0	18	90.0	22	56.4	74	59.2	69	53.9	24	92.3	221	57.0	40.00	.001

Note. Chi-square test.

Oral questioning/presentation. As indicated in Table 39, the selection of oral questioning / presentation by CVQ students as an assessment strategy used by their teachers ranged from 59% in Grenada to 100% in Dominica. Overall, 69.8% of students across the six CARICOM states selected oral questioning/presentation. The result of the chi-square test indicated that the differences in oral questioning/presentation among the countries was statistically significant χ^2 (DF = 5, $N = 388$) = 15.67, $p < .01$).

Written testing. The selection of written testing by CVQ students as an assessment strategy used by their teachers ranged from 70.0% in Barbados to 80.8% in TCI (Table 39). Overall, 68.6% of the CVQ students across the six CARICOM states selected written testing. The result of the chi-square test showed that the differences in written testing among the countries was statistically significant χ^2 (DF = 5, $N = 388$) = 13.00, $p < .02$).

Observation/practical demonstration. The result of the chi-square test showed that the differences in the use of observation/practical demonstration among the countries was not statistically significant. As indicated in Table 39, the selection of observation/practical demonstration by CVQ students as an assessment strategy used by their teachers ranged from 61.5 % in TCI to 92.0% in Barbados. Overall, 73.7% of the CVQ students across the six CARICOM states selected observation/practical demonstration.

Product examination. As indicated in Table 39, the selection of product examination by CVQ students as an assessment strategy used by their teachers ranged from 39.2% in Jamaica to 53.8% in Grenada. Overall, 42.8% of students across the six CARICOM states selected product examination, however the result of the chi-square test was not statistically significant.

Portfolio. The selection of portfolio by CVQ students as an assessment strategy used by their teachers ranged from 61.5% in Grenada to 89.5% in T&T (Table 39). Overall, 78.1% of the CVQ students across the six CARICOM states selected portfolio. The result of the chi-square test showed that the differences in written testing among the countries was statistically significant χ^2 (DF = 5, $N = 388$) = 24.09, $p < .001$).

Professional discussion. As indicated in Table 39, the selection of professional discussion by CVQ students as an assessment strategy used by their teachers ranged from 28.2% in Grenada to 46.0% in Barbados. Overall, 40.5% of students across the six CARICOM states selected professional discussion, however the result of the chi-square test was not statistically significant.

Project. As indicated in Table 39, the selection of project by CVQ students as an assessment strategy used by their teachers ranged from 28% in Barbados to 92.3% in T&T. Overall, 57.0% of students across the six CARICOM states selected project. The result of the chi-square test indicated that the differences in project among the countries was statistically significant χ^2 (DF = 5, N = 388) = 40.00, $p < .001$.

Summary of sub-question 3 (i). This question investigated the extent to which the CBET approach was employed for delivery and assessment for the CVQ level 1. Students in each country were asked to indicate the extent of their understanding of the benefits of the CVQ, awareness of safety requirements for occupational areas pursued and their level of satisfaction with the knowledge gained from the CVQ.

The grand mean score of 4.11 and a standard deviation of .983 suggested a moderate degree of understanding the benefits of the CVQ among students in all countries. It was hypothesised that there was no significant difference in the understanding of the benefits of the CVQ level 1 among students in the six CARICOM states. The findings did not support the hypothesis. The results of a Tukey post-hoc test suggested that students in Dominica had a better understanding of the CVQ programme than their counterparts in Jamaica.

Students reported a high level of awareness of safety requirements for occupational areas pursued as evidenced by a grand mean score of 4.48 and a standard deviation of .836. The study hypothesised that there was no significant difference in the awareness of safety requirements for occupational areas pursued among students in the six CARICOM states. The findings supported the hypothesis as the data set provided insufficient data to conclude that there is a difference among students' awareness of safety requirements for occupational areas pursued.

There was a moderate level of satisfaction with the knowledge and experience gained in the CVQ level 1 programme as indicated by a grand mean score of 4.16 and

a standard deviation of 1.16. The study hypothesised that there was no significant difference in satisfaction with the knowledge and experience gained in the CVQ level 1 programme in the six CARICOM states. The findings did not support the hypothesis, as the results of the Tukey post-hoc test suggested that students' satisfaction with the knowledge and experience gained in the CVQ level 1 programme in Barbados and Dominica were significantly higher than students in Jamaica.

Students were asked to indicate the extent to which CBET was employed for both delivery and assessment of the CVQ level 1 in relation to the variables: resources to support CBET, curriculum delivery and assessment practices.

With regard to resources to support CBET, the moderate grand mean score of 3.81 and a standard deviation of .704 suggested that in general, students believed that resources were adequate to support the implementation of the CVQ via the CBET approach. The study hypothesised that there was no significant difference in students' perceptions of the adequacy of resources to support the implementation of the CVQ via the CBET approach. The findings did not support the hypothesis as the Tukey post-hoc suggested that there was greater consensus among students in T&T that resources were adequate to support the implementation of the CVQ than those in Jamaica.

An overall moderate mean score of 3.47 and a standard deviation of .493 suggested that students selected responses for curriculum delivery that were in keeping with the requirements of the delivery of the CVQ via the CBET approach. It was hypothesised that there was no significant difference in students' perceptions regarding the extent to which curriculum delivery was in keeping with the requirements of the CVQ via the CBET approach in the six CARICOM states. The findings did not support the hypothesis as the Tukey post-hoc test suggested significantly greater agreement among students from Dominica than Barbados, TCI, T&T and Jamaica that curriculum delivery was in keeping with the requirements for the CVQ via the CBET approach. There was also significantly higher agreement among students from T&T than Jamaica.

Regarding assessment practices, the results of the study revealed that in general, students perceived assessment approaches to be in keeping with CBA given a grand mean score of 3.69 and a standard deviation of .742. The study hypothesised

that there was no significant difference in students' perceptions regarding the extent to which assessment approaches were in keeping with the requirements of CBA for the CVQ. The findings did not support the hypothesis as the results of the Tukey post-hoc test suggested that there was greater agreement on the extent to which assessment practices for the CVQ was in keeping with CBA among students from Barbados than Grenada. There was also greater agreement among students from T&T than those from Jamaica and Grenada.

The Pearson Chi-square test was used to determine if there were differences in the delivery/instructional strategies employed among the six CARICOM states from the perspectives of the students. The findings indicated that there were statistically significant differences among countries in lecture, brainstorming, use of videos, small group discussion, case studies, role playing/simulation, field trips and peer tutoring/coaching. Overall, the most popular delivery/instructional strategies selected by students were class discussion (89.5%), followed by demonstration (79.4%). Lecture was selected by 48.8% of the students. The least popular delivery/instructional strategies selected were case studies (21.3%) and field trips (25.2%).

Pearson's chi-square was also used to determine if there were differences in assessment strategies employed among the six CARICOM states. Findings revealed that there were statistically significant differences in oral questioning/presentation, written testing, portfolio assessment and project. Overall, the assessment strategies most frequently selected by students were portfolio (78.1%), practical demonstration (73.7%) followed by oral questioning/presentation (69.8%). Written testing was selected by 68.6% of the students. The least popular assessment strategies selected were professional discussion (40.5%), followed by product examination (42.8%).

Sub-question 3 (ii). From the perspective of select teachers, to what extent is the CBET approach employed for both delivery and assessment for the CVQ level 1?

Teacher data. Means and grand mean scores as well as standard deviations were generated from the responses of CVQ teachers using the Statistical Package for Social Sciences Version 23 (SPSS 23.0) for the variables: Teachers' resources to support

CBET, teachers' capacity, curriculum delivery and assessment practices. One-way Analysis of Variance (ANOVA) and Tukey Post-Hoc tests were conducted to determine significant differences among and between various countries respectively. Significant differences were reported at $p < 0.05$.

Given the small sample size of 50, Fisher's exact test was used to examine country differences regarding delivery/instructional and assessment strategies. The 95% Confidence level was used to test the main outcome variables.

Teachers in each country of the study were asked to indicate: the extent to which they were familiar with the requirements and benefits of the CVQ and the extent to which their workshops satisfy all OSH requirements for the CVQ level 1 programme. The mean scores, grand mean scores, and associated standard deviations of teachers' responses are presented in Table 40.

Table 40

Summary of Mean Scores and Standard Deviations of Teachers' Familiarity with the Requirements and Benefits of the CVQ Level 1 Programme and Workshop Satisfaction of OSH Requirements in the Six CARICOM states (N = 50)

Country	Barbados	Dominica	Grenada	Jamaica	T&T	TCI	Grand mean (SD)
Variables	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	
Familiarity with the requirements and benefits of the CVQ	4.30 (.483)	5.00 (.000)	4.50 (.548)	4.44 (.527)	4.12 (1.21)	4.50 (.577)	4.36 (.827)
Satisfaction of OSH requirements	3.30 (1.33)	3.75 (.500)	2.33 (.516)	3.00 (1.00)	2.76 (1.39)	2.50 (1.00)	2.92 (1.17)

Familiarity with the requirements and benefits of the CVQ. As indicated in Table 40, the grand mean score of 4.36 suggested a high degree of familiarity with the requirements and benefits of the CVQ among teachers in all countries. The relatively low standard deviation of .827 suggested consensus among teachers. Teachers in

Dominica reported the highest mean score of 5.00 and a standard deviation of 0.00 which implied unanimity among teachers on their degree of familiarity with the requirements and benefits of the CVQ. Teachers in other countries reporting high mean scores and comparably low standard deviations include Barbados ($m = 4.30$, $SD = .483$), Grenada ($m = 4.50$, $SD = .548$), Jamaica ($m = 4.44$, $SD = .527$) and TCI ($M = 4.50$, $SD = .577$). Teachers in T&T reported the lowest mean score ($m = 4.12$) and a standard deviation of 1.21. This suggested a fair degree of familiarity with the requirements of the CVQ, however, the relatively high standard deviation implied a lack of consensus among teachers.

Satisfaction of OSH requirements. As indicated in Table 40, the grand mean score was 2.92 and a standard deviation of 1.17. This implied that in general, there was uncertainty among teachers in the six CARICOM states concerning the OSH requirements for the CVQ level 1 programme. The relatively high standard deviation suggested dissenting views among teachers. The lowest mean score was reported by teachers in Grenada ($m = 2.33$) and a standard deviation of .516. This implied disagreement by those teachers that their workshops satisfy OSH requirements. The relatively low standard deviation suggested consensus among those teachers. Teachers in TCI also reported a low mean score ($m = 2.50$) and a standard deviation of 1.00.

The highest mean score was reported by teachers in Dominica ($m = 3.75$) and a standard deviation of .500, which suggested moderate agreement and consensus among those teachers that their workshops satisfy OSH requirements.

Neutral mean scores were reported by teachers in Barbados ($m = 3.30$, $SD = 1.33$), Jamaica ($m = 3.00$, $SD = 1.00$) and T&T ($M = 2.76$, $SD = 1.39$). This suggested uncertainty among those teachers regarding satisfaction of OSH requirements. However, the comparably high standard deviations are indicative of dissension among teachers in those countries.

Tests of statistical significance: One-way ANOVA, Tukey post hoc, Chi-square.

One-way ANOVA F-Test of teachers' responses regarding familiarity with the requirements and benefits and satisfaction of OSH requirements for the CVQ level 1 programme. Further analysis was done using one-way ANOVA to determine whether there were significant differences among countries in teachers' familiarity with the requirements

and benefits and satisfaction of OSH requirements for the CVQ level 1 programme. The null hypothesis was tested at the 0.05 probability level to determine the degree of statistical significance among the mean perception scores of teachers from the six CARICOM states for the two variables:

Null Hypotheses

1. Ho: There is no significant difference in teachers' familiarity with the requirements and benefits of the CVQ level 1 among teachers in the six CARICOM states.

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

2. Ho: There is no significant difference in satisfaction of OSH requirements for CVQ occupational areas pursued in the six CARICOM states from the perspectives of the teachers.

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

Table 41

Summary of One-way ANOVA F Test: Mean Scores and F- values of Teachers' Familiarity with the Requirements and Benefits and Satisfaction of OSH Requirements in the CVQ Level 1 Programme in the Six CARICOM States

Countries	Barbados	Dominica	Grenada	Jamaica	T&T	TCI	F value	Sig.
Familiarity with the requirements and benefits of the CVQ	4.30	5.00	4.50	4.44	4.12	4.12	2.933	.526
Satisfaction of OSH requirements	3.30	3.75	2.33	3.00	2.76	2.50	7.433	.381

Note.

1. Degrees of freedom for the variable "familiarity with the requirements and benefits of the CVQ" = (5, 44), n = 49
2. Degrees of freedom for the variable "satisfaction of OSH requirements" = (5, 44), n = 49

Familiarity with the requirements and benefits of the CVQ level 1. There was no statistical significant difference among the six CARICOM States as demonstrated by one-way ANOVA $F(5, 44) = 1.263, p = .526$. Therefore, the null hypothesis was accepted. This means that the data set has provided insufficient data to conclude that there is a difference among teachers' familiarity with the requirements and benefits of the CVQ level 1 programme.

Satisfaction of OSH requirements. There was no statistical significant difference among the six CARICOM States as demonstrated by one-way ANOVA $F(5, 44) = 7.433, p = .381$. Therefore, the null hypothesis was accepted. This means that the data set has provided insufficient data to conclude that there is a difference in satisfaction of OSH requirements for the CVQ level 1 programme from the perspectives of the teachers.

Teachers in the study were also asked to indicate the extent to which the CBET approach was employed for both delivery and assessment of the CVQ level 1 in relation to the variables: resources to support CBET, teachers' capacity, curriculum delivery and assessment practices.

Table 42 presents the means and standard deviations teachers' responses in six CARICOM countries in respect to the main variables: resources to support CBET, teachers' capacity curriculum delivery, and assessment practices. The analysis will focus on the descriptive statistics of these main variables and associated sub-variables.

Table 42

Summary of Teachers' Mean Scores and Standard Deviations by Country for the Variables: Resources to Support CBET, Teachers' Capacity, Curriculum Delivery and Assessment Practices (N = 50)

Country	Barbados	Dominica	Grenada	Jamaica	T&T	TCI
Sub-variables	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Resources to support CBET						
Adequate Laboratory / Workshop	2.70 (1.49)	1.75 (.957)	3.33 (.816)	3.22 (1.20)	3.29 (2.46)	3.25 (.957)

Adequacy of tools and equipment	2.90 (1.37)	4.00 (1.41)	2.50 (1.22)	2.44 (1.23)	3.35 (1.49)	4.00 (.000)
Updated equipment	2.80 (1.47)	3.25 (1.50)	2.50 (1.22)	2.78 (1.09)	2.75 (1.57)	3.25 (.957)
Equipment compatible with CVQ	3.60 (1.26)	4.50 (.577)	2.50 (1.04)	3.67 (.707)	3.06 (1.48)	4.25 (.500)
Occupational standards	4.30 (.483)	5.00 (.000)	4.17 (1.16)	4.22 (.972)	4.29 (1.26)	4.50 (.577)
Curriculum content	3.80 (1.03)	3.50 (1.73)	3.00 (1.26)	3.56 (1.33)	3.59 (1.58)	4.00 (.816)
Teachers' Guides	3.30 (.823)	1.75 (.500)	2.83 (1.32)	3.44 (1.42)	3.41 (1.69)	2.75 (.957)
Learner Guides	2.50 (1.35)	2.25 (1.25)	2.17 (.408)	2.22 (.833)	2.59 (1.66)	3.50 (1.29)
Adequate supplementary teaching material	2.80 (1.47)	2.00 (.816)	2.50 (1.22)	2.44 (1.50)	2.82 (1.42)	3.25 (.957)
Recommendations from facility audits implemented	3.60 (1.50)	4.00 (1.15)	3.50 (.548)	3.89 (.333)	3.38 (1.70)	3.75 (1.25)
Department budgets prepared	3.70 (1.41)	2.50 (1.00)	2.33 (1.21)	3.56 (1.42)	3.41 (1.58)	3.00 (2.16)
Grand mean (SD)	3.27 (.897)	3.13 (.472)	2.84 (.781)	3.22 (.723)	3.26 (1.20)	3.59 (.577)
Overall Grand Mean (SD)	3.22 (.907)					
Teachers' Capacity						
Use of modern teaching aids	4.30 (.483)	4.75 (.500)	4.00 (1.09)	4.22 (.667)	3.76 (1.25)	4.25 (.577)
Guide students to work in teams	4.30 (.483)	5.00 (.000)	4.17 (.408)	4.56 (.527)	4.06 (1.60)	4.25 (.500)
Help students link theory and practice	4.30 (.483)	5.00 (.000)	4.00 (.000)	4.67 (.500)	4.29 (1.21)	4.50 (.577)
Familiarity with scientific knowledge in occupational area	4.60 (.516)	5.00 (.000)	4.00 (.000)	4.33 (.707)	4.12 (1.36)	4.00 (.000)
Familiarity with practical knowledge in occupational area	4.60 (.516)	5.00 (.000)	4.67 (.516)	4.56 (.527)	4.47 (1.23)	4.50 (.577)
Grand mean (SD)	4.42 (.415)	4.95 (.100)	4.16 (.294)	4.46 (.469)	4.14 (1.19)	4.30 (.346)
Overall Grand Mean (SD)	4.33 (.776)					
Curriculum Delivery						
Basic theory overwhelms curriculum	3.33 (1.00)	3.00 (1.41)	3.00 (1.00)	1.85 (1.06)	3.28 (1.13)	3.33 (1.15)

Dominance of theory	3.70 (1.05)	3.75 (1.25)	3.33 (1.03)	2.77 (1.48)	3.46 (1.12)	3.25 (1.50)
Dominance of practical	3.70 (.674)	4.00 (.000)	2.66 (1.03)	3.37 (1.18)	2.33 (1.04)	2.75 (.957)
Curriculum commensurate with needs of labour market	3.90 (.738)	4.00 (1.41)	3.33 (1.03)	3.78 (.667)	3.06 (1.47)	4.25 (.500)
Sufficiency of allocation of time for practicals	2.50 (.972)	1.25 (.500)	2.50 (1.22)	2.44 (1.23)	2.47 (1.50)	2.75 (1.50)
Course material draws on students' experiences	3.70 (.949)	4.25 (.500)	4.00 (.000)	3.78 (.667)	3.18 (1.55)	4.00 (.000)
Curriculum can assist students in gaining future careers	4.10 (.568)	4.50 (.577)	4.33 (.516)	4.33 (.500)	3.53 (1.66)	4.75 (.500)
Curriculum delivery plans prepared	3.00 (1.70)	4.50 (.577)	3.17 (1.83)	4.00 (.866)	3.59 (1.77)	4.25 (.500)
Curriculum delivery plans share with students	2.70 (1.63)	3.75 (1.50)	3.50 (1.22)	3.56 (.882)	3.24 (1.75)	3.50 (1.00)
Organisation and planning processes in place for portfolio management	2.90 (1.79)	4.50 (.577)	3.17 (1.32)	4.11 (.333)	3.41 (1.73)	4.50 (.577)
Lesson plans prepared and approved	3.20 (1.39)	3.25 (.957)	3.50 (1.22)	4.00 (1.00)	3.65 (1.49)	4.50 (.577)
System for monitoring students' portfolio	3.80 (1.03)	4.50 (.577)	3.17 (1.32)	4.44 (.527)	3.65 (1.57)	4.50 (.577)
Plans for instruction individualised and self-paced	3.60 (.966)	4.75 (.500)	3.50 (.837)	3.22 (.972)	3.82 (1.55)	4.00 (.000)
Teacher portfolio maintained	2.90 (1.79)	3.75 (1.50)	3.00 (1.09)	3.44 (.882)	3.71 (1.44)	4.00 (.000)
Grand mean (SD)	3.37 (.586)	3.83 (.681)	3.22 (.259)	3.59 (.301)	3.64 (.416)	3.95 (.288)
Overall Grand mean (SD)	3.56 (.475)					
Assessment Practices						
Assessments planned with students	3.20 (1.39)	4.00 (.000)	3.33 (1.03)	3.78 (1.09)	3.12 (1.61)	3.50 (1.00)
Assessment plans prepared	3.70 (1.33)	4.25 (.957)	4.17 (.408)	3.22 (1.56)	3.76 (1.48)	3.50 (1.00)
Assessment plans shared with students	3.80 (1.39)	4.25 (.957)	3.50 (1.22)	2.89 (1.96)	3.41 (1.77)	3.50 (1.00)

Assessments conducted throughout school term	3.80 (1.39)	4.50 (.577)	4.17 (.408)	4.33 (.500)	3.65 (1.53)	4.50 (.577)
Formative assessments conducted	3.90 (1.44)	4.75 (.500)	4.00 (.000)	4.33 (.500)	3.65 (1.53)	4.50 (.577)
Formative assessments recorded	3.80 (1.39)	4.50 (.577)	4.17 (.408)	4.33 (.500)	3.76 (1.60)	4.25 (.500)
Formative assessments used to confirm competence	3.90 (1.44)	4.75 (.500)	3.67 (.816)	4.22 (.441)	3.88 (1.57)	4.00 (.000)
Summative assessment records used to improve students' performance	3.60 (1.50)	4.75 (.500)	4.00 (.000)	4.11 (.782)	3.94 (1.60)	4.00 (.000)
Familiarity with role of assessor	4.00 (1.49)	4.75 (.500)	4.33 (.516)	4.33 (.500)	3.82 (1.59)	4.50 (.577)
Familiarity with role of IV	3.50 (1.90)	4.75 (.500)	3.33 (1.96)	4.33 (.500)	3.76 (1.56)	4.50 (.577)
Familiarity with role of EV	3.90 (1.44)	4.75 (.500)	3.33 (1.96)	4.33 (.500)	3.71 (1.57)	4.50 (.577)
Feedback from IV inform assessments	3.50 (1.58)	3.25 (2.36)	2.83 (1.83)	3.78 (.833)	3.16 (1.56)	3.50 (1.00)
Feedback from EV inform assessments	3.70 (1.49)	3.25 (2.36)	2.67 (1.13)	4.56 (2.18)	3.53 (1.58)	3.50 (1.00)
Internal verification conducted frequently	3.40 (1.43)	2.75 (2.21)	2.33 (1.50)	4.11 (2.36)	3.53 (1.54)	3.25 (.957)
Continuous and detailed feedback given to students	3.90 (1.44)	4.00 (.577)	3.33 (1.21)	4.22 (.441)	3.88 (1.53)	3.50 (1.00)
Students reassessed until they meet required standard	4.00 (1.49)	4.50 (.577)	3.33 (1.03)	4.00 (1.00)	3.94 (1.56)	3.75 (1.25)
Grand mean (SD)	4.13 (.372)	4.23 (.767)	3.53 (.702)	4.05 (.443)	4.19 (.556)	3.90 (.390)
Overall Grand mean (SD)	4.05 (.550)					

Resources to support CBET. As indicated in Table 42, teachers in the six CARICOM states reported a neutral grand mean score of 3.22 and a standard deviation of .907. This suggested uncertainty among teachers regarding the adequacy of resources to support CBET. The relatively low standard deviation was indicative of consensus among teachers. Teachers in four countries reported neutral mean scores and comparably low standard deviations, viz., Barbados ($m = 3.27$, $SD = .897$), Jamaica ($m = 3.22$, $SD = 3.22$), Dominica ($m = 3.13$, $SD = .472$) and Grenada ($m =$

2.84, SD = .781). Interestingly, although teachers in T&T reported a neutral mean score ($m = 3.26$) the relatively high standard deviation (SD = 1.20), indicated lack of consensus among teachers. Further disaggregation of the descriptive statistics revealed that teachers in TCI reported the highest mean score ($m = 3.59$) and a standard deviation of .577 which is indicative of moderate agreement and consensus regarding the adequacy of resources to support CBET given the relatively low standard deviation.

Teachers' capacity. Table 42 shows that teachers in the six CARICOM states reported an overall high grand mean score of 4.33 and a standard deviation of .766. This implied that in general, teachers strongly believed that they possess the abilities, skills and expertise to effectively deliver the CVQ via the CBET approach. The highest mean score was reported by teachers in Dominica ($m = 4.95$) and a standard deviation of 1.00 which was indicative of strong agreement and consensus among those teachers. Teachers in three other countries, viz., Jamaica ($m = 4.46$, SD = .469), Barbados ($m = 4.42$, SD = .415) and TCI ($m = 4.30$, SD = .346) also reported high mean scores and comparably low standard deviations which suggested greater consensus. The lowest mean score was reported by teachers in T&T ($m = 4.14$, SD = 1.19), which suggested moderate agreement by some teachers that, to a less extent, they possess the abilities, skills and expertise to deliver the CVQ via the CBET approach, however, the relatively high standard deviation suggested divergence of views among these teachers. Teachers in Grenada also reported a moderate mean score ($m = 4.16$), however, the very low standard deviation (SD = .294) implied a high level of consensus among these teachers.

Curriculum delivery. Teachers in the six CARICOM states reported an overall grand mean score of 3.56 and a standard deviation of .475 (Table 42). This suggested moderate agreement among teachers that curriculum delivery was in keeping with CBET. The relatively low standard deviation implied a high level of consensus among teachers. The highest mean score was reported by teachers in TCI ($m = 3.95$) and a very low standard deviation of 2.88. This implied moderate agreement and greater consensus by those teachers. Teachers in Jamaica ($m = 3.59$, SD = .301), Dominica ($m = 3.83$, SD = .681) and T&T ($m = 3.64$, SD = .416) reported moderate mean scores and comparably low standard deviations which was indicative of moderate agreement

and consensus that curriculum delivery was in keeping with CBET. The lowest mean score was reported by teachers in Grenada ($m = 3.22$) and a very low standard deviation of .259, which implied that those teachers were uncertain about whether the curriculum delivery strategies implemented were in sync with the requirements of the CBET approach. Teachers in Barbados also reported a neutral mean score of ($m = 3.37$) and a low standard deviation of .586.

Assessment practices. As indicated in Table 42, teachers in the six CARICOM states reported a moderate overall grand mean score of 4.05 and a standard deviation of .550. This suggested that in general, teachers believed that assessment practices were in keeping with CBA. The descriptive statistics revealed that teachers in Dominica reported the highest mean score ($m = 4.23$) and a standard deviation of .767, which implied strong agreement and consensus that assessment practices were in keeping with CBA. Moderate mean scores and comparably low standard deviations were reported by teachers in T&T ($m = 4.19$, $SD = .556$), Barbados ($m = 4.13$, $SD = .372$), Jamaica ($m = 4.05$, $SD = .443$) and TCI ($m = 3.90$, $SD = .390$), which was indicative of moderate agreement and consensus among those teachers. The lowest mean score was reported by teachers in Grenada ($m = 3.53$), while this is also indicative of a moderate mean score, the relatively higher standard deviation suggested a lower level of consensus among those teachers.

One-way ANOVA F-Test of teachers' responses regarding resources to support CBET, teachers' capacity, curriculum delivery and assessment practices. Further analysis was done using one-way ANOVA to determine whether there were differences in the variables resources to support CBET, teachers' capacity, curriculum delivery and assessment practices in the CVQ level 1 programme among the countries. The null hypothesis was tested at the 0.05 probability level to determine the statistical significance among the mean perception scores of students in the six CARICOM states for the three variables:

1. Ho: There is no significant difference in teachers' perceptions of the adequacy of resources to support the implementation of the CVQ level 1 via the CBET approach in the six CARICOM States.

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

2. Ho: There is no significant difference in teachers' capacity to deliver the CVQ level 1 via the CBET approach in the six CARICOM States from the perspectives of the teachers.

$$H_o: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

3. Ho: There is no significant difference in teachers' perceptions regarding the extent to which curriculum delivery for the CVQ level 1 was in keeping with the CBET approach.

$$H_o: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

4. Ho: There is no significant difference in teachers' perceptions regarding the extent to which assessment approaches were in keeping with the requirements of CBA for the CVQ level 1 in the six CARICOM states.

$$H_o: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6$$

Table 43

Summary of Teachers' Mean Scores by Country and F-values of the Adequacy of Resources to Support CBET, Teachers' Capacity, and the Extent to which the CBET Approach is Employed for Delivery and Assessment of the CVQ

Country	Barbados	Dominica	Grenada	Jamaica	T&T	TCI	F-value	Sig.
Adequacy of resources	3.27	3.13	2.84	3.22	3.26	3.59	1.46	.892
Teachers' capacity	4.42	4.95	4.16	4.46	4.14	4.30	2.55	.534
Curriculum Delivery	3.37	3.83	3.22	3.59	3.64	3.95	1.739	.168
Assessment practices	4.13	4.23	3.53	4.05	4.19	3.90	2.223	.381

Note.

1. Degrees of freedom for the variable "Adequacy of resources to support the implementation of the CVQ via the CBET approach" = (5, 43), n = 49
2. Degrees of freedom for the variable "Teachers' capacity" = (5, 44), n = 49
3. Degrees of freedom for the variable "The extent to which curriculum delivery was in keeping with the requirements of the CVQ via the CBET approach" = (5, 35), n = 40
4. Degrees of freedom for the variable "Assessment for the CVQ via CBA" = (5, 41), n = 46

As indicated in Table 43 the null hypothesis was accepted for the variables: adequacy of resources, teachers' capacity, curriculum delivery and assessment practices. This means that the data set has provided insufficient data to conclude that there is a difference in teachers' perceptions in the six CARICOM states of the adequacy of resources to support the implementation of the CVQ via the CBET approach, teachers' capacity, curriculum delivery and assessment practices.

Delivery strategies. To determine if there were differences in the delivery/instructional strategies employed among the six CARICOM states, the Fisher's exact test was used.

Table 44

Summary of Fisher's Exact Test Statistics for Delivery/Instructional Strategies Selected by CVQ Teachers in the six CARICOM States

Countries	Barbados		Dominica		Grenada		Jamaica		T&T		TCI		All countries N = 50		F-value	P-value*
	n = 10		n = 04		n=06		n=09		n =17		n = 04					
Delivery strategies	n	%	n	%	n	%	n	%	n	%	n	%	n	%		
Lecture	07	70.0	04	100.0	04	66.7	07	77.8	06	35.3	04	100.0	32	64.0	10.20	.05
Lecture discussion	07	70.0	04	100.0	06	100.0	09	100.0	15	88.2	04	100.0	45	90.0	4.597	.357
Brainstorming	05	50.0	03	75.0	03	50.0	07	77.8	10	58.8	04	100.0	32	64.0	4.473	.505
Video shows	09	90.0	04	100.0	03	50.0	09	100.0	13	76.5	04	100.0	42	84.0	6.916	.125
Class discussion	08	80.0	04	100.0	06	100.0	09	100.0	13	76.5	04	100.0	44	88.0	4.065	.482
Practical demonstration	07	70.0	04	100.0	06	100.0	08	88.9	13	76.5	04	100.0	41	82.0	3.383	.667
Small group discussion	03	30.0	04	100.0	04	66.7	06	66.7	11	64.7	02	50.0	30	60.0	6.645	.241
Case studies	06	60.0	04	100.0	04	66.7	08	88.9	08	47.1	03	75.0	33	66.0	6.659	.241
Role play/simulation	06	60.0	03	75.0	03	50.0	03	38.3	11	64.7	02	50.0	28	56.0	3.312	.688

Field trips	03	30.0	04	100.0	03	50.0	06	66.7	12	70.6	02	50.0	30	60.0	7.456	.174
Peer tutoring, coaching	00	00.0	02	50.0	01	16.7	02	22.2	06	35.3	00	00.0	11	22.0	7.145	.156

Note. Fisher's exact test.

Lecture. As indicated in Table 44, the selection of lecture as a delivery/instructional strategy by CVQ teachers ranged from 35.3% in T&T to 100.0% in Dominica and TCI. Overall, 64.0% of CVQ teachers across the six CARICOM countries identified lecture as their preferred instructional strategy. The result of the Fisher's exact test indicated that the differences in lecture as a preferred instructional strategy among the countries was statistically significant (χ^2 (DF=5, N = 50) = 10.20, $p < .05$).

Lecture discussion. The results of the Fisher's exact test indicated that the differences in lecture discussion among the countries was not statistically significant ($p = .357$). In Barbados, 70% of the CVQ teachers selected lecture discussion, however this was selected by all teachers in Dominica, Grenada, Jamaica and TCI. Overall, 90% of CVQ teachers across the six CARICOM states selected lecture discussion.

Brainstorming. As indicated in Table 44, the selection of brainstorming as a delivery/instructional strategy by CVQ teachers ranged from 50.0% in Barbados and Grenada to 100.0% in TCI. Overall, 64.0% of CVQ teachers across the six CARICOM states selected brainstorming. The results of the Fisher's exact test indicated that the differences in brainstorming among the countries was not statistically significant ($p = .505$).

Video shows. The results of the Fisher's exact test indicated that the differences in the use of videos among the countries was not statistically significant ($p = .125$). The selection of video shows as a delivery/instructional strategy by CVQ teachers ranged from 50.0% in Grenada to 100.0% in Jamaica and TCI. Overall, 84% of CVQ teachers across the six CARICOM states selected video shows.

Class discussion. The results of the Fisher's exact test indicated that the differences in class discussion among the countries was not statistically significant ($p = .482$). In T&T, 76.5% of the CVQ teachers selected class discussion, however this

was selected by all teachers in Dominica, Grenada, Jamaica and TCI. Overall, 88.0% of CVQ teachers across the six CARICOM states selected class discussion.

Practical demonstration. As indicated in Table 44, the selection of practical demonstration as a delivery/instructional strategy by CVQ teachers ranged from 70.0% in Barbados to 100.0% in Dominica and Grenada. Overall, 82.0% of CVQ teachers across the six CARICOM states selected practical demonstration. The results of the Fisher's exact test indicated that the differences in practical demonstration among the countries was not statistically significant ($p = .667$).

Small group discussion. As indicated in Table 44, the selection of small group discussion as a delivery/instructional strategy by CVQ teachers ranged from 30.0% in Barbados to 100.0% in Dominica. Overall, 60.0% of CVQ teachers across the six CARICOM states selected small group discussion. The results of the Fisher's exact test indicated that the differences in small group discussion among the countries was not statistically significant ($p = .241$).

Case studies. The results of the Fisher's exact test indicated that the differences in case studies among the countries was not statistically significant ($p = .225$). The selection of case studies as a delivery/instructional strategy by CVQ teachers ranged from 47.1% in T&T to 100.0% in Dominica. Overall, 66.0% of CVQ teachers across the six CARICOM states selected case studies.

Role play/simulation. The results of the Fisher's exact test indicated that the differences in role play/simulation among the countries was not statistically significant ($p = .688$). The percentages of teachers selecting role play/simulation as a delivery/instructional strategy by CVQ teachers was comparatively low as these ranged from 38.3% in Jamaica to 75.0% in Dominica. Overall, 56.0% of CVQ teachers across the six CARICOM states selected role play/simulation.

Field trips. As indicated in Table 44, the selection of field trips as a delivery/instructional strategy by CVQ teachers ranged from 30.0% in Barbados to 100.0% in Dominica. Overall, 60.0% of CVQ teachers across the six CARICOM states selected field trips. The results of the Fisher's exact test indicated that the differences in field trips among the countries was not statistically significant ($p = .174$).

Peer tutoring/coaching. The results of the Fisher's exact test indicated that the differences in peer tutoring/coaching among the countries was not statistically

significant ($p = .156$). The percentages of teachers selecting role peer tutoring/coaching as a delivery/instructional strategy by CVQ teachers was comparatively very low as these ranged from 0.0% in Barbados and TCI to 50.0% in Dominica. Overall, 22.0% of CVQ teachers across the six CARICOM states selected peer tutoring/coaching.

Table 45

Summary of Fisher's Exact Test Statistics for Assessment Strategies Selected by Teachers in the Six CARICOM States

Countries	Barbados n = 10		Dominica n = 04		Grenada n=06		Jamaica n=09		T&T n =17		TCI n = 04		All countries N = 50		F-value	P-value*
Assessment strategies	n	%	n	%	n	%	n	%	n	%	n	%	n	%		
Oral questioning / Presentations	10	100.0	04	100.0	06	100.0	08	88.9	14	87.5	04	100.0	46	93.9	2.821	.857
Written testing	08	80.0	04	100.0	06	100.0	09	100.0	14	87.5	04	100.0	45	91.8	3.158	.705
Observation / Practical demonstration	09	90.0	04	100.0	05	83.3	09	100.0	14	87.5	04	100.0	45	91.8	2.583	.908
Product examination	08	80.0	04	100.0	05	83.3	04	44.4	13	81.3	03	75.0	37	75.5	5.503	.332
Portfolio assessment	10	100.0	04	100.0	03	50.0	09	100.0	13	81.3	03	75.0	42	85.7	8.483	.05
Professional discussion	01	10.0	02	50.0	00	00.0	01	11.1	09	56.3	04	100.0	10	20.4	7.053	.155
Expert witness testimony	04	40.0	02	50.0	00	00.0	01	11.1	02	12.5	04	100.0	11	22.4	6.134	.244
Project	08	80.0	03	75.0	05	83.3	08	88.9	09	56.3	04	100.0	37	75.5	4.747	.429
Written report	04	40.0	03	75.0	04	44.4	12	75.0	16	100.0	04	100.0	30	61.2	4.850	.445

Note. Fisher's exact test.

Oral questioning/presentations. The results of the Fisher's exact test indicated that the differences in oral questioning/presentations among the countries was not statistically significant ($p = .857$). In T&T, 87.5% of the CVQ teachers selected oral questioning/presentation, however this was selected by all teachers in Barbados, Dominica, Grenada and TCI. Overall, 93.9% of CVQ teachers across the six CARICOM states selected oral questioning/presentations.

Written testing. The results of the Fisher's exact test indicated that the differences in written testing among the countries was not statistically significant ($p = .705$). In Barbados, 80.0% of the CVQ teachers selected written testing, however this was selected by all teachers in Dominica, Grenada, Jamaica and TCI. Overall, 91.8% of CVQ teachers across the six CARICOM states selected written testing.

Observation/Practical demonstration. As indicated in Table 45, the selection of observation/practical demonstration as an assessment strategy by CVQ teachers ranged from 83.3% in Barbados to 100.0% in Dominica, Jamaica and TCI. Overall, 91.8% of CVQ teachers across the six CARICOM states selected observation/practical demonstration. The results of the Fisher's exact test indicated that the differences in observation/practical demonstration among the countries was not statistically significant ($p = .908$).

Product examination. The results of the Fisher's exact test indicated that the differences in product examination among the countries was not statistically significant ($p = .332$). The selection of product examination as an assessment strategy by CVQ teachers ranged from 44.4% in Jamaica to 100.0% in Dominica. Overall, 75.5% of CVQ teachers across the six CARICOM states selected product examination.

Portfolio assessment. As indicated in Table 45, the selection of portfolio assessment as an assessment strategy by CVQ teachers ranged from 50.0% in Grenada to 100.0% in Barbados, Dominica and Jamaica. Overall, 85.7% of CVQ teachers across the six CARICOM states selected portfolio assessment. The result of the Fisher's exact test indicated that the differences in lecture among the countries was statistically significant (χ^2 (DF=5, $N = 49$) = 8.483, $p < .05$).

Professional discussion. The results of the Fisher's exact test indicated that the differences in professional discussion among the countries was not statistically significant ($p = .155$). The percentages of teachers selecting professional discussion as

an assessment strategy by CVQ teachers was comparatively very low as these ranged from 0.0% in Grenada and TCI to 50.0% in Dominica. Overall, 20.4% of CVQ teachers across the six CARICOM states selected professional discussion.

Expert witness testimony. The results of the Fisher's exact test indicated that the differences in expert witness testimony among the countries was not statistically significant ($p = .244$). The percentages of teachers selecting expert witness testimony as an assessment strategy by CVQ teachers was comparatively low as these ranged from 0.0% in TCI to 50.0% in Dominica. Overall, 22.4% of CVQ teachers across the six CARICOM states selected expert witness testimony.

Project. As indicated in Table 45, the selection of project as an assessment strategy by CVQ teachers ranged from 56.3% in T&T to 100.0% in TCI. Overall, 75.5% of CVQ teachers across the six CARICOM states selected project. The results of the Fisher's exact test indicated that the differences in project among the countries was not statistically significant ($p = .429$).

Written reports. As indicated in Table 45, the selection of written reports as an assessment strategy by CVQ teachers ranged from 40.0% in Barbados to 100.0% in T&T and TCI. Overall, 61.2% of CVQ teachers across the six CARICOM states selected written reports. The results of the Fisher's exact test indicated that the differences in written reports among the countries was not statistically significant ($p = .445$).

Summary of Sub-question 3 (ii). This question investigated the extent to which the CBET approach was employed from the delivery and assessment for the CVQ level 1 from the perspectives of the teachers. Teachers in each country of the study were asked to indicate the extent to which they were familiar with the requirements and benefits of the CVQ and the extent to which their workshops satisfy all OSH requirements for the CVQ level 1.

With regard to familiarity with the requirements and benefits of the CVQ, a grand mean score of 4.36 and a standard deviation of .827 suggested a high degree of familiarity with the requirements and benefits of the CVQ among teachers in all countries. The study hypothesised that there was no significant difference in teachers' familiarity with the requirements and benefits of the CVQ level 1 among teachers in the six CARICOM states. The findings supported the hypothesis as the data set

provided insufficient data to conclude that there was a difference among teachers' familiarity with the requirements and benefits of the CVQ level 1 programme.

In general, there was uncertainty among teachers in the six CARICOM states concerning satisfaction of OSH requirements for the CVQ level 1 programme as evidenced by a mean of 2.92 and a standard deviation of 1.17. The study hypothesised that there was no significant difference in the satisfaction of OSH requirements for CVQ occupational areas pursued in the six CARICOM states from the perspectives of the teachers. The findings supported the hypothesis. This means that the data set provided insufficient data to conclude that there is a difference in satisfaction of OSH requirements for the CVQ level 1 from the perspectives of the teachers.

Teachers in the study were asked to indicate the extent to which the CBET approach was employed for both delivery and assessment of the CVQ level 1 in relation to the variables: resources to support CBET, teachers' capacity, curriculum delivery and assessment practices.

In relation to resources to support CBET, teachers in the six CARICOM states reported a neutral mean score of 3.22 and a standard deviation of .907. This suggested uncertainty among teachers about the adequacy of resources to support CBET. The study hypothesised that there was no significant difference in teachers' perceptions of the adequacy of resources to support the implementation of the CVQ level 1. The findings supported the hypothesis which means that there was insufficient data to conclude that there is a difference in teachers' perceptions about the adequacy of resources to support the implementation of the CVQ via the CBET approach.

With regard to teachers' capacity, an overall high grand mean score of 4.33 and a standard deviation of .766 implied that in general, teachers strongly believed that they possess the abilities, skills and expertise to effectively deliver the CVQ via the CBET approach. The study hypothesised that there was no significant difference in teachers' capacity to deliver the CVQ level 1 via the CBET approach in the six CARICOM states from the perspectives of the teachers. The findings supported the hypothesis which means that there was insufficient data to conclude that there is a difference in teachers' perceptions in the six CARICOM states of their capacity to deliver the CVQ level 1 via the CBET approach.

Regarding curriculum delivery, teachers in the six CARICOM states reported an overall grand mean score of 3.56 and a standard deviation of .475. This suggested moderate agreement among teachers that curriculum delivery was in keeping with CBET. It was hypothesised that there is no significant difference in teachers' perceptions regarding the extent to which curriculum delivery for the CVQ level 1 was in keeping with the CBET approach. The findings supported the hypothesis. This means that there was insufficient data to conclude that there is a difference in teachers' perceptions in the six CARICOM states that curriculum delivery for the CVQ level 1 is in keeping with CBET.

With regard to assessment practices, teachers in the six CARICOM states reported a moderate grand mean score of 4.05 and a standard deviation of .550. This suggested that in general, teachers believed that assessment practices were in keeping with CBA. The study hypothesised that there was no significant difference in teachers' perceptions regarding the extent to which assessment approaches were in keeping with the requirements of CBA for the CVQ level 1 in the six CARICOM states. The findings supported the hypothesis, which means that the data set provided insufficient data to conclude that there is a difference in teachers' perceptions in the six CARICOM states regarding the extent to which assessment approaches were in keeping with the requirements of CBA for the CVQ level 1.

Given the small sample size of teachers, the Fisher's exact test was used to determine if there were differences in the delivery/instructional strategies employed among teachers in the six CARICOM states. The findings revealed that there was a statistically significant difference in lecture where overall, 64% of the CVQ teachers identified lecture as their preferred instructional/delivery strategy. The selection of lectures ranged from 35.3% in T&T to 100% in Dominica and TCI. Though not statistically significant, the most popular delivery/instructional strategies used were lecture discussion (90%), followed by class discussion (88%). The least popular delivery/instructional strategies used were peer tutoring/coaching (22%) and role play/simulation (56%).

Fisher's exact test was used to determine if there were differences in assessment strategies employed among teachers in the six CARICOM states. Findings revealed that there were no statistically significant differences among the assessment

strategies selected by teachers. Though not statistically significant, the most popular assessment strategies selected were oral questioning (93.9%), followed by written testing (91.8%) and observation/practical demonstration (91.8%). The least popular were professional discussion (20.4%) and Expert Witness testimony (22.4%).

Sub-question 3 (iii) From the perspective of select internal verifiers, to what extent is the CBET approach employed for both delivery and assessment for the CVQ level 1?

Internal verifier data. Means and grand mean scores as well as standard deviations were generated from the responses of internal verifiers using the Statistical Package for Social Sciences Version 23 (SPSS 23.0) for the variables: procedures for procurement of resources and internal verifier practices. One-way Analysis of Variance (ANOVA) was conducted to determine significant differences among various countries. Significant differences were reported at $p < 0.05$.

Internal verifiers in the study were asked to indicate the extent to which the CBET approach was employed for both delivery and assessment of the CVQ level 1 in relation to the variables: procedures for the procurement of resources and internal verifier practices.

The mean scores, grand mean scores, and associated standard deviations of the responses of internal verifiers are presented in Table 46.

Table 46

Summary of Internal Verifiers' Mean Scores and Standard Deviations by Country for the Variables: Procedures for the Procurement of Resources to Support CBET and Internal Verifier Practices (N=24)

Country	Barbados	Dominica	Jamaica	T&T	TCI
Sub-variables	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Procedures for the procurement of resources					
Preparation of departmental budgets	4.50 (.547)	3.00 (1.41)	4.00 (.816)	4.11 (.333)	4.33 (.577)
Approval of departmental budgets	4.33 (.816)	3.00 (1.41)	3.25 (1.25)	3.88 (.928)	4.33 (.577)

Requisition processes in place	4.50 (.547)	4.00 (.000)	4.00 (.816)	4.44 (.527)	4.00 (1.00)
Inventory listing of equipment/materials and tools available	4.16 (1.16)	4.00 (.000)	4.25 (.500)	4.66 (.500)	4.00 (1.00)
Grand mean (SD)	4.37 (.627)	3.50 (.707)	3.87 (.629)	4.27 (.475)	4.16 (.763)
Overall grand mean (SD)	4.15 (.598)				
Internal Verifier Practices					
Meetings with assessors	4.83 (.408)	4.00 (.000)	4.00 (.000)	4.11 (.928)	4.33 (.577)
Liaison with assessors – feedback and guidance	4.83 (.408)	4.00 (.000)	4.00 (.000)	3.79 (1.39)	4.00 (.000)
Induction mentorship and support for new assessors	4.66 (.816)	2.00 (2.82)	4.00 (.816)	4.22 (.971)	4.33 (.577)
Frequency of internal verification	4.66 (.516)	4.00 (.000)	3.00 (2.00)	3.44 (1.66)	4.00 (1.00)
System for monitoring portfolio development	4.66 (.516)	4.00 (.000)	4.00 (.000)	4.11 (.928)	4.00 (1.00)
Familiarity with the role of the EV	4.66 (.516)	4.00 (.000)	4.25 (.500)	4.55 (.527)	4.33 (.577)
Grand mean (SD)	4.72 (.455)	3.66 (.471)	3.87 (.416)	4.03 (.941)	4.16 (.333)
Overall grand mean (SD)	4.16 (.720)				

Procedures for the procurement of resources. As indicated in Table 46, the overall grand mean score was 4.15 and a standard deviation of .598. This suggested moderate agreement by internal verifiers in the five countries that procedures for the procurement of resources such as preparation and approval of budgets, requisition processes and the maintenance of an inventory listing of equipment, materials and tools were in place. The relatively low standard deviations suggested consensus among these internal verifiers. Moderate mean scores were reported by internal verifiers in all countries viz., Barbados ($m = 4.37$, $SD = .627$), Dominica ($m = 3.50$, $SD = .629$), Jamaica ($m = 3.87$, $SD = .629$), T&T ($m = 4.27$, $SD = .475$) and TCI ($m = 4.16$, $SD = .763$). As revealed in the analysis, comparably low standard deviations

were reported among all countries which implied consensus among all internal verifiers. The lowest standard deviation was reported by internal verifiers in T&T which suggested greater consensus among those in that country.

Internal verifier practices. The grand mean score of 4.16 and a standard deviation of .598 (Table 46), suggested moderate agreement and consensus among internal verifiers in the five CARICOM states. This implied that internal verifiers in these countries somewhat agree that they adhere to internal verifier practices, such as liaising with assessors to provide feedback and guidance on standards and assessment outcomes, conducting internal verification activities and monitoring students' portfolio development and completion. Internal verifiers in all countries reported moderate mean scores and comparably low standard deviations, viz., Barbados ($m = 4.72$, $SD = .416$), Dominica ($m = 3.66$, $SD = .471$), Jamaica ($m = 3.87$, $SD = .416$), T&T ($m = 4.03$, $SD = .941$) and TCI ($m = 4.16$, $SD = .333$). The notably higher standard deviation in T&T (.941) and relatively lower one in TCI (.333) suggested the least and greatest consensus respectively.

One-way ANOVA F-Test of internal verifiers' responses regarding procedures for procurement of resources and internal verifier practice. Further analysis was done using one-way ANOVA to determine whether there were differences in the variables: procedures for procurement of resources and internal verifier practices in the CVQ level 1 programme among the five countries. The null hypothesis was tested at the 0.05 probability level to determine the statistical significance among the mean perception scores of internal verifiers in the five CARICOM states for the two variables:

1. Ho: There is no significant difference in internal verifiers' perceptions of the implementation of procedures for procurement of resources to support the delivery and assessment of the CVQ level 1 via the CBET approach in the five CARICOM States.

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$$

2. Ho: There is no significant difference in internal verifier practices for the CVQ level 1 programme in the five CARICOM States.

$$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$$

Table 47

Summary of Internal Verifiers' Mean Scores by Country and F-values of the Procedures for Procurement of Resources and Internal Verifier Practice for the CVQ Level 1 Programme in the Five CARICOM States

Country	Barbados	Dominica	Jamaica	T&T	TCI	F-value	Sig.
Procedures for procurement of resources	4.37	3.50	3.87	4.27	4.16	1.598	.366
Internal verifier practice	4.72	3.66	3.87	4.03	4.16	2.843	.246

Note.

1. Degrees of freedom for the variable "Procedures for the procurement of resources" = (4, 19), n = 24
2. Degrees of freedom for the variable "Internal verifier practice" = (4, 19), n = 24

Procedures for procurement of resources. As indicated in Table 47, the null hypothesis was accepted for the variables: procedures for the procurement of resources and internal verifier practices. This means that the data set has provided insufficient data to conclude that there is a difference in internal verifiers' perceptions regarding the implementation of procedures for procurement of resources to support the delivery and assessment of the CVQ level 1 via the CBET approach and internal verifier practices in the five CARICOM states.

Summary of Sub-question 3 (iii). This question investigated the extent to which the CBET approach was employed for both delivery and assessment of the CVQ level 1. Internal verifiers in the study were asked to indicate the extent to which the CBET approach was employed for both delivery and assessment of the CVQ level 1 in relation to the variables: procedures for the procurement of resources and internal verifier practices.

With regard to procedures for the procurement of resources, IVs in the five countries reported a grand mean score of 4.15 and a standard deviation of .598. This suggested moderate agreement by IVs in the five countries that procedures for the procurement of resources, such as preparation and approval of budgets, requisition

processes, and the maintenance of an inventory listing of equipment materials and tools were in place. The study hypothesised that there was no significant difference in internal verifiers' perceptions of the implementation of procedures for the procurement of resources to support the delivery and assessment of the CVQ level 1 via the CBET approach. The findings supported the hypothesis, which means that there was insufficient data to conclude that there is a difference in internal verifiers' perceptions regarding the implementation of procedures for procurement of resources to support the delivery and assessment of the CVQ level 1 via the CBET approach in the five CARICOM states.

With regard to internal verifier practices, the grand mean score of 4.16 and a standard deviation of .598 suggested moderate agreement and consensus among IVs in the five CARICOM states. This implied that IVs in these countries moderately agreed that they adhere to internal verifier practices such as, inter alia, liaising with assessors to provide feedback and guidance on standards and assessment outcomes and monitoring students' portfolio development and completion. It was hypothesised that there was no significant difference in internal verifier practices for the CVQ level 1 in the five CARICOM states. The findings supported the hypothesis which means that the data set provided insufficient data to conclude that there is a difference in internal verifier practices for the CVQ level 1 programme in the five CARICOM states.

Integration of Research Questions 2 & 3

Integration of Findings

For this study, multi-type data were collected using different data collection procedures and groups of respondents in secondary schools within the six CARICOM states. The qualitative and quantitative findings from each group of respondents were merged to allow for concurrent analysis, triangulation and complementarity. Qualitative data obtained from students, teachers, internal verifiers, principals/administrators were corroborated with the results of the surveys administered to students, teachers and internal verifiers to determine if the approaches employed in the delivery and assessment of the CVQ were in accordance with CBET. The integration of findings from the qualitative and quantitative research methodologies are presented under the headings: resources to support CBET, curriculum delivery and curriculum assessment.

Resources to support CBET. As articulated by students, teachers and principals/administrators, qualitative data revealed that the delivery of the CVQ level 1 curriculum was constrained by the inadequacy of resources, in particular, consumables, Personal Protective Equipment (PPE) as well as tools and machinery for class sessions, some of which were in a state of disrepair. In addition, support for the delivery of the CVQ programme by way of funding for equipment and materials was not consistently implemented by Ministries of Education across countries. Bureaucratic procurement procedures impeded the timely acquisition of resources in countries such as TCI, T&T and Jamaica.

On the contrary, quantitative data revealed that in general, students believed that resources were adequate to support the implementation of the CVQ via the CBET approach as evidenced by a moderate grand mean score of 3.81 and a standard deviation of .704. There was significantly greater consensus among students in T&T that resources were adequate to support the implementation of the CVQ than those in Jamaica ($p = .01$). This was supported by qualitative data gleaned from students in T&T and Jamaica. While students in T&T spoke about equipment malfunction, those in Jamaica referred to limited equipment and not having enough materials to share.

This contrasted with quantitative data gleaned from teachers in relation to resources to support CBET. Teachers in the six CARICOM states reported a neutral mean score of 3.22 and a standard deviation of .907, which suggested uncertainty among teachers about the adequacy of resources to support CBET. Quantitative data also revealed that there was no significant difference in teachers' perceptions about the adequacy of resources to support the implementation of the CVQ via the CBET approach.

The concerns expressed by Grenadian and Trinidadian teachers about the inadequacy of OSH requirements as revealed by qualitative data were corroborated by quantitative data. In general, there was uncertainty among teachers in the six CARICOM states concerning satisfaction of OSH requirements for the CVQ level 1 programme as evidenced by a mean of 2.92 and a standard deviation of 1.17. There were no differences in teachers' perceptions regarding the satisfaction of OSH requirements for CVQ level 1 occupational areas.

Qualitative data revealed that principals/administrators from TCI and T&T experienced challenges in procuring resources for the CVQ. However, quantitative data revealed that IVs in the five countries moderately agreed that procedures for the procurement of resources such as preparation and approval of budgets, requisition processes, and the maintenance of an inventory listing of equipment materials and tools were in place as evidenced by a grand mean score of 4.15 and a standard deviation of .598. There was no significant difference in internal verifiers' perceptions regarding the implementation of procedures for the procurement of resources to support the delivery and assessment of the CVQ level 1 via the CBET approach.

Curriculum delivery. Based on qualitative data gleaned, teachers and principals/administrators were uncertain about whether they were employing the CBET approach for the delivery of the CVQ. According to teachers and IVs, adhering to the CBET philosophy was challenging due to already established traditional standard procedures for curriculum delivery, lack of resources and poor students' attitude.

Quantitative data revealed an overall moderate mean score of 3.47 and a standard deviation of .493 as reported by students, which suggested that they selected responses for curriculum delivery that were in keeping with the requirements of the delivery of the CVQ via the CBET approach. There was significantly greater agreement among students from Dominica than Barbados ($p = .05$), TCI ($p = .01$), T&T ($p = .01$) and Jamaica ($p = .001$), that curriculum delivery was in keeping with the requirements for the CVQ via the CBET approach.

Similarly, teachers in the six CARICOM states reported an overall grand mean score of 3.56 and a standard deviation of .475, which suggested moderate agreement that curriculum delivery was in keeping with CBET. However, unlike the results for students, there was no significant difference among teachers' perceptions that curriculum delivery for the CVQ level 1 is in keeping with CBET in the six CARICOM states.

Qualitative data obtained from students and teachers revealed that their experiences were consistent with delivery strategies consistent with CBET such as those associated with experiential learning. This was supported by quantitative data as overall, the most popular delivery/instructional strategies selected by students were

class discussion (89.5%), followed by demonstration (79.4%). Lecture was selected by 48.8% of the students. The least popular delivery/instructional strategies selected were case studies (21.3%) and field trips (25.2%). The findings indicated that there were statistically significant differences among countries in lecture ($p = .001$), brainstorming ($p = .02$), use of videos ($p = .001$), small group discussion ($p = .001$), case studies ($p = .001$), role playing/simulation ($p = .001$), field trips ($p = .001$) and peer tutoring/coaching ($p = .001$). The low percentage of students selecting field trips may account for the challenges experienced by teachers and principals/administrators in organising field trips and work attachments for students as revealed in the qualitative data.

Contrarily, quantitative data from teachers revealed that the only statistically significant difference among countries was lecture ($p = .05$) where overall, 64% of the CVQ teachers identified lecture as their preferred instructional/delivery strategy. The selection of lecture ranged from 35.3% in T&T to 100% in Dominica and TCI. Though not statistically significant, the most popular delivery/instructional strategies used by teachers were lecture discussion (90%), followed by class discussion (88%). The least popular delivery/instructional strategies used were peer tutoring/coaching (22%) and role play/simulation (56%).

Interestingly, although not significant, the use of practical demonstration as a delivery strategy was consistent among both students and teachers. Overall, 79.4% of the CVQ students indicated that practical demonstration was used as a delivery strategy by their teachers, the percentage of students in countries ranged from 74.4% in Grenada to 88.5% in TCI. For CVQ teachers, 82.0% overall indicated that practical demonstration was used, the percentage ranged from 70% in Barbados to 100% in Dominica and Grenada.

Competency-based assessment (CBA). Qualitative data revealed principals/administrators in Barbados, Dominica and TCI admitted that they were constrained in adhering to CBA due to lack of knowledge about the approach. Teachers in Barbados also expressed uncertainty about whether they were employing CBA when assessing students since they were required to assess all students simultaneously. However, quantitative data regarding the extent to which approaches were in keeping with the requirements of CBA suggested that teachers in the six

CARICOM states reported a moderate grand mean score of 4.05 and a standard deviation of .550. This suggested that in general, teachers moderately believed that assessment practices were in keeping with CBA. However, there were no differences in teachers' perceptions in the six CARICOM states regarding the extent to which assessment approaches were in keeping with the requirements of CBA for the CVQ level 1. Contrastingly, there were differences in students' perceptions regarding the extent to which assessment approaches were in keeping with CBA.

Quantitative data revealed that there was significantly greater agreement on the extent to which assessment practices for the CVQ was in keeping with CBA among students from Barbados than Grenada ($p = .03$). There was also significantly greater agreement among students from T&T than those from Jamaica ($p = .01$) and Grenada ($p = .000$). In general, students in all countries perceived assessment approaches as in keeping with CBA assessment practices, given a moderate grand mean score of 3.69 and a standard deviation of .742.

Assessment strategies most frequently selected by students were portfolio (78.1%), practical demonstration (73.7%) followed by oral questioning/presentation (69.8%). Written testing was selected by 68.6% of the students. The least popular assessment strategies selected were professional discussion (40.5%), followed by product examination (42.8%). Findings revealed that there were statistically significant differences in students' selection of oral questioning/presentation ($p = .01$), written testing ($p = .02$), , portfolio assessment ($p = .001$) and project ($p = .001$).

With regard to teachers, quantitative data revealed that though not statistically significant, the most popular assessment strategies selected were oral questioning (93.9%), followed by written testing (91.8%) and observation/practical demonstration (91.8%). The least popular were professional discussion (20.4%) and Expert Witness testimony (22.4%).

Teachers' indication of the use of oral questioning was much greater than that reported by students. Also, a greater number of teachers than students indicated that observation/practical demonstration was used as an assessment strategy. While written testing was selected by 68.6% of the students, it was selected by 91.8% of the teachers. Qualitative data revealed that internal verifications were conducted in an ad hoc manner in all countries and with varying frequencies. However, quantitative data

revealed that most IVs in Barbados strongly agreed that internal verifications were frequently conducted while most in Dominica and TCI and some in T&T agreed. However, some IVs in Jamaica were uncertain about the frequency of internal verifications which was not totally supported by CVQ teachers as gleaned from the quantitative data. Some Grenadian teachers did not agree, while some in Barbados and Dominica and most in TCI were uncertain. There was only agreement from some teachers in Jamaica and T&T.

With regard to internal verifier practices, the grand mean score of 4.16 and a standard deviation of .598 suggested moderate agreement and consensus among IVs in the five CARICOM states. This implied that IVs in these countries moderately agreed that they adhere to internal verifier practices such as, inter alia, liaising with assessors to provide feedback and guidance on standards and assessment outcomes and monitoring students' portfolio development and completion. However, there was no significant difference in internal verifier practices for the CVQ level 1 in the five CARICOM states.

CHAPTER 5 - DISCUSSION AND RECOMMENDATIONS

This chapter presents a discussion of the main findings of the study which dealt with the implementation of the CVQ in selected secondary schools in six CARICOM states. The chapter summarises findings which are then discussed based on the research questions. The results of the study was also compared with existing research. Actual limitations of the study were presented, feasible recommendations in relation to the findings of the study proffered and conclusions drawn.

The study investigated/explored stakeholders' perceptions about the CVQ to determine its impact on the delivery and assessment for the CVQ level 1 among selected secondary schools in the six CARICOM states. The study also investigated stakeholders' experiences in the delivery and assessment for the CVQ to determine the extent to which the approaches employed in the delivery and assessment of the CVQ were in accordance with CBET.

The conceptual framework for the study was adapted from the CARICOM approved "Model of Certification for Basic Labour Competencies". The concepts within the model are based on the processes for implementation of the CVQ, the theories underlying CBET, the relationship among the stakeholders involved in implementation as well as the relationships among the identified concepts.

The qualitative phase of the mix methodology approach explored stakeholders' perceptions and experiences about the CVQ level 1 programme by conducting focus group sessions and interviews among stakeholders in selected secondary schools in the six CARICOM states that have implemented the programme. Qualitative research questions sought data on the following:

1. Stakeholders' perceptions about the CVQ level1, inclusive of
 - a. Students' perceptions about the CVQ level1.
 - b. Teachers' and principals'/administrators' perceptions of students' pursuit of the CVQ level 1.
 - c. Perceived influences of students' decision to pursue the CVQ level 1 from the perspectives of select students and teachers.
 - d. How select teachers' and principals'/administrators' perceptions about the CVQ influence, if at all, the delivery of the CVQ level 1.

- e. How select teachers' and principals'/administrators' perceptions about the CVQ influence, if at all, the assessment for the CVQ level 1.
2. Experiences of select stakeholders in the delivery of and assessment for the CVQ level 1, inclusive of:
 - a. Experiences of select students, teachers, internal verifiers and principals/administrators in the delivery of CVQ level 1 using the CBET approach.
 - b. Experiences of select students, teachers, internal verifiers and principals/administrators in the assessment of CVQ level 1 using the CBET approach.

The quantitative phase of the study surveyed students, teachers and internal verifiers to determine if the approaches employed in the delivery and assessment of the CVQ were in accordance with CBET. The quantitative research question sought data on:

3. The extent to which the CBET approach was employed for both delivery and assessment for the CVQ level 1 from the perspective of select students, teachers, internal verifiers and principals/administrators.

Summary and Discussion of Findings

Research Question 1

Stakeholders' perceptions of the CVQ level 1.

Summary of findings.

1. Most students from all countries perceived the CVQ as a good career option, however, some students from a few countries were unclear about the relationship between the CVQ and their future career paths. Teachers and principals/administrators from all countries also felt that the CVQ was a good career option.
2. Students, teachers and principals/administrators perceived the CVQ as a subject for students who were not academically inclined.
3. Most students as well as teachers and principals/administrators were able to articulate the benefits of pursuing the CVQ level 1.

4. There was unanimous agreement from students in all schools from all countries that teachers were the greatest influencers of students' decision to pursue the CVQ level 1.
5. Other than teachers and parents, attributes that influenced students' decision to pursue the CVQ level 1 included, job prospects, entrepreneurial pursuits, mobility and international acceptance the CVQ afforded, their perceived limitations, dislike for reading and an opportunity to stem male attrition in schools.
6. Students in some territories were mandated to pursue the CVQ level 1.
7. Teachers identified themselves, parents and students' peers as instrumental in students' decision to pursue the CVQ level 1.
8. Teachers felt that principals/administrators negatively influenced students' pursuit of the CVQ since, unlike CSEC, excellent results for CVQ level 1 was not considered as a benchmark for good performance of secondary schools. Principals'/administrators' lack of knowledge and consequent absence of communication about the CVQ also served to deter students from pursuing the CVQ level 1.
9. Communication of erroneous information from all stakeholders about the CVQ level 1 acted as a deterrent to students' decision to pursue the CVQ programme.
10. Unavailability of funds on the part of the students acted a deterrent to students' pursuit of the CVQ given the significant amount of resources required.
11. Negative societal perceptions about workers, in particular those in TVET occupations served as deterrents to students' decision to pursue the CVQ level 1.
12. The success of TVET graduates influenced students to pursue the CVQ level 1.
13. Teachers from Barbados, Grenada, Jamaica and T&T endorsed the use of teaching and learning strategies such as individualised/self-paced learning, differentiated learning and repetition of lessons.
14. Teachers sanctioned the use of reflective practice.

15. Teachers were willing to use their personal resources for the delivery of the CVQ level 1.
16. Teachers were willing to work extra hours to accommodate the delivery of the CVQ. They also affirmed that the validity of assessments conducted must be assured notwithstanding time constraints.
17. Given the breadth of content to be covered, teachers felt that students should be prepared for the pursuit of the CVQ level 1 in the lower forms.
18. Teachers felt that the additional duties and responsibilities they were required to perform in their respective roles for the delivery of the CVQ level 1 should be commensurately compensated. They felt that assessment for the CVQ was very demanding. They also felt that their roles as assessors can provide the impetus for them to remain current.
19. The delivery of the CVQ was burdensome to teachers given the low levels of literacy and numeracy of some CVQ students. Teachers also felt that some students lacked self-confidence. However, they were amenable to addressing weaknesses identified in students by encouraging and reinforcing lessons where possible.
20. Teachers supported adherence to the requirement for the conduct of frequent and continuous assessments for the CVQ level 1. Principals/administrators supported the repetition of assessments to assure the competence of students.
21. Principals/administrators felt that they should be more intimately involved in the delivery of the CVQ given their expressed commitment to enable efficient delivery of the programme.
22. Principals/administrators endorsed the organisation of field experiences for CVQ students and suggested collaboration with other well-resourced institutions to allow for student practicums, thereby ensuring the efficient delivery and assessment of the CVQ level 1.
23. Principals/administrators were committed to ensuring the availability of resources for the implementation of the CVQ level 1. Some principals advocated for the implementation of the self-sufficient TVET School model.
24. Principals/administrators as well as teachers were amenable to regular meetings with teachers/assessors and verifiers and encouraged team teaching

among general staff to support the delivery of the CVQ. Teachers also supported working as a team to conduct assessments.

25. Principals/administrators felt that adjustments should be made to the school's timetable to accommodate the delivery of the CVQ level 1. They were also amenable to working extended hours to accommodate the conduct of assessments for the CVQ level 1.
26. Principals/administrators were in support of clinical supervision of delivery and assessment for the CVQ and mentoring of CVQ teachers.
27. Principals/administrators from T&T and TCI extolled the value of developing internal assessment policies and strategies to support assessment for the CVQ.

Discussion of findings. TVET prepares a person for the world of work.

Empirical data identifying skills gaps and mismatches are made available by the NTAs and other pertinent institutions in the region. However, a longstanding issue for TVET, which pervades within CARICOM, is its negative image among key stakeholders such as youth, parents, educators and other stakeholders as reported in this study. Negative societal perceptions about workers, in particular those in TVET occupations served as deterrents to students' decision to pursue the CVQ level 1. This view was reported by Dunn-Smith (2011) where the CVQ was promoted by the MoE for students who were not "deemed ready" for CSEC. Similarly, another article penned by TTUTA (2016), premised an analysis of the implementation of the CVQ by making reference to the perception of TVET as inferior and pursued by students who were less intelligent.

Further, several researchers in the Caribbean have also highlighted the issue of the negative perception and the positioning of TVET for students who are not academically inclined (Jules, 2011; Shakes, 2011; Knight, 2014). Unfortunately, this negative perception of TVET is not limited to the CARICOM region as research findings on students' perceptions of the VET in Schools programme in Australia revealed that an "image problem" existed (Dalley-Trim et al., 2008). This perceived stigma will perpetuate as long as stakeholders continue to make the distinction between TVET and academia.

The continued neglect of the pursuit of TVET subjects is exacerbated in the secondary school system where, more often than not, it is seen as the last resort for

students selecting subjects in fourth form. The findings of this study revealed that most students perceived the pursuit of the CVQ, not primarily as a career path but as a backup, as well as stress relief and relief from schoolwork. Although there is a paucity of empirical data on students' perceptions of TVET, these findings were consistent with those of several studies conducted regionally and internationally. The perception of the CVQ as a backup echoes the conclusion drawn in a study conducted by the NTATT in 2020 where students did not perceive the pursuit of TVET as an imperative for employment. Interestingly, it appears that interest in the CVQ has waned over the years since secondary school students in 2011 had then perceived the CVQ as an asset that will assist in finding future employment (NTATT, 2011).

Understanding the benefits of the CVQ is a criterion against which compliance is measured during CXC's quality assurance audit for the award of the CVQ. The findings suggested that most students articulated the perceived benefits that can be derived from the pursuit of CVQ level 1 at the secondary school level. These perceived benefits were supported by quantitative findings in the study which suggested a moderate degree of understanding of the benefits of the CVQ among the majority of students in all countries. This is laudable since student involvement is critical in the pursuit of the CVQ via the CBET approach. Conclusions drawn by Hatzios (1996) stated that students' attitudes regarding the pursuit of vocational programmes were more related to tangible features of the programme. Cuff (2017) found that students across schools in England were willing to select subjects when they enjoy them and/or believe that they will be useful for them in the future. An orientation to the main aspects of the CVQ programme is good practice and may include, *inter alia*, the definition of the CVQ, benefits of pursuing the CVQ and students' roles and responsibilities in the system.

Findings of the study revealed that teachers and principals/administrators across all countries highlighted the benefits of the CVQ, such as the acquisition of pertinent skills, increased marketability and entrepreneurial opportunities. The CVQ article penned by TTUTA (2016), also alluded to the marketability of TVET graduates as they continue to find jobs both locally and abroad. Further, unique themes also emanating from teachers in countries such as Jamaica perceived the CVQ as enhancing mobility and career progression. Research conducted by Knight (2014) in secondary

schools in Grenada revealed that principals recognised the value of the CVQ in facilitating progression within the education and training system.

Similarly, some principals/administrators felt that the CVQ was a better choice for students than CSEC subjects, with one even asserting that the CVQ carried more weight than other subjects. Many stakeholders' understanding of the positioning of the CVQ as well as other TVET qualifications offered within the education and training system in CARICOM is misconceived. One of the challenges with the delivery of the CVQ in the Caribbean identified by Fletcher, (2020), was the absence of qualifications frameworks. This has contributed to countries' limited awareness and knowledge of vocational qualifications with regard to levels. National and Regional Qualifications Frameworks (N/RQFs) have the potential to communicate the meaning, value and relationships of qualifications to relevant stakeholders.

Teachers wield great influence over students' decision to pursue subject offerings at the upper secondary level. This was profoundly demonstrated in the findings of this study by both students and teachers. This supports the findings of Cuff (2017), which revealed that the main motivator for students' choice of subjects was their teacher. However, the policies and practices with regard to CVQ subject selection differed among the six countries. While some students were afforded the luxury of choice, others were mandated. Interestingly, while anticipated better opportunities as a result of pursuing the CVQ was proffered to counter students' self-reported perceived limitations, there was still discontent about not being given the opportunity to pursue other subjects. This finding was consistent with TEPA (1998) where one of the constraints faced by students when selecting subjects for senior school was limited subject offerings. The positioning of TVET as an integral component of general education can allow for students to pursue a mix of traditional and TVET subjects. However, this must resonate with teachers and principals/administrators through actions and clear communication.

Communication of accurate information is key to the successful implementation of a curriculum reform initiative, there must be consistent messaging from all stakeholders about the CVQ. In this study, teachers felt that communication of erroneous information served as a deterrent to students' pursuit of the CVQ level 1. Negative societal perceptions about workers in TVET occupations was also

identified as a deterrent. These findings reiterate the need for aggressively pursuing strategies to negate further stigmatisation of TVET.

Building the competencies of principals/administrators via professional development programmes is essential for effective implementation of the CVQ. Indeed, Fullan (1995) has identified principals/administrators as major change facilitators of innovations in education. An interesting finding of the study was that principals/administrators were perceived as negative influencers on students' decision to pursue the CVQ, since, unlike CSEC, excellent results for CVQ level 1 was not considered as a benchmark for good performance at secondary schools. This was compounded by principals/administrators' perceived lack of knowledge and consequent absence of communication about the CVQ, which also served to deter students from pursuing the CVQ level 1. Notwithstanding these revelations, some principals/administrators felt that they should be more intimately involved in the delivery of the CVQ given their expressed commitment to enable efficient delivery of the programme. Principals/administrators also pledged commitment to ensure the availability of resources for the implementation of the CVQ level 1. Some advocated for the implementation of a Self-Sufficient TVET School model. This model is based on "learning by doing, earning and saving". The income generated goes towards the acquisition of resources to support the implementation of the CVQ. Indeed, UNESCO-UNEVOC has highlighted the implementation of this model in Paraguay as a promising/innovative practice.

The findings of the study suggested that for the most part, the perceptions of teachers and principals/administrators regarding the delivery and assessment for the CVQ demonstrated commitment to the effective and efficient implementation of the CVQ level 1. Indeed, this commitment as well as enthusiasm posited by Harris et al. (1995) is imperative for the successful implementation of CBET.

Teachers from Barbados, Grenada, Jamaica and T&T endorsed the use of teaching and learning strategies recommended for CBET such as individualised/self-paced learning, differentiated learning and repetition of lessons. Teachers from Dominica, TCI and T&T also sanctioned the use of reflective practice. They were also willing to work extra hours to accommodate the delivery of the CVQ, and to use their

personal resources given the challenge of inadequate time and resources for delivery via the CBET approach.

Although teachers felt that the delivery of the CVQ was burdensome, given the low levels of literacy and numeracy of students pursuing the CVQ, they were amenable to addressing weaknesses identified in students. Notwithstanding the willingness of teachers to engage in these laudable actions for the benefit of effective implementation, they felt that the additional duties and responsibilities they were required to perform in their respective roles for the delivery of the CVQ level 1 should be commensurately compensated.

The suggestion of preparing students for the pursuit of the CVQ level 1 in the lower forms made by teachers, given the breadth of content to be covered, seems feasible since demographic data obtained for this study revealed that 12% of the actual student population indicated that they were in the third form.

Principals'/administrators' commitment to the effective and efficient implementation of the CVQ level 1 was also extended to ensuring that effective pedagogical strategies were employed by CVQ teachers. The findings of the study suggested that most principals/administrators were amenable to frequent communication with teachers/assessors and verifiers and also encouraged team teaching among general staff to support the delivery of the CVQ. They were also in support of clinical supervision and mentoring for CVQ teachers. Team teaching offers an interdisciplinary approach with many pedagogical advantages such as the creation of a dynamic and interactive learning environment where teachers may get an appreciation of other disciplines. This assists in building a community of practice. Collaboration among teachers delivering academic courses and those delivering T&I courses with a view to increased integration and applicability of content was suggested by Jones et al. (1997). Chambliss and Chiariello (1988) also endorsed the application of the content in math and science by the respective teachers to the needs of vocational education students. Perhaps team teaching can encourage a "whole systems approach" to the implementation of the CVQ, where teachers will benefit from pedagogical and cross-occupational competence. From my knowledge of this, some TVET institutions in Canada have been successfully using this strategy to improve approaches to teaching.

Networking with stakeholders such as industry and other TVET institutions can source venues for field trips and hands-on training for CVQ students. Enrichment activities such as field trips extend classroom learning in a real-world environment to allow for the practical application of concepts learnt in the classroom which work to enhance practical learning. Collaboration with other institutions and industry to share resources and facilities can optimise the use of limited resources. The study revealed that principals/administrators endorsed the organisation of field experiences for CVQ students and suggested collaboration with other well-resourced institutions to allow for student practicums. Fostering collaborations of this nature will work to ensure the efficient delivery of the CVQ level 1 as these are cost effective techniques that may make implementation more affordable (Fletcher, 2020).

Given that the delivery of the CVQ via CBET requires individualised instruction and assessments, adequate time for delivery and assessment is imperative. The issue of adequate time for delivery via CBET is a moot point. The findings of the study revealed that most principals/administrators felt that adjustments must be made to the school's timetable to accommodate the delivery of the CVQ level 1. This finding is consistent with that found in the literature as research has revealed that time available for working with students at a vocational education programme in secondary schools in the U.S. was identified as a potential problem by teachers (National Center for Education Statistics, January 1994).

Research Question 2

Experiences of select stakeholders in the delivery of and assessment for the CVQ level 1.

Summary of findings

1. The delivery of the CVQ level 1 curriculum was constrained by the inadequacy of resources, in particular, consumables, Personal Protective Equipment (PPE) as well as tools and machinery for class sessions, some of which were in a state of disrepair.
2. Support for the delivery of the CVQ programme by way of funding for equipment and materials was not consistently implemented by Ministries of Education across countries.

3. Bureaucratic procurement procedures impeded the timely acquisition of resources in countries such as TCI, T&T and Jamaica.
4. Both human and non-human resources for effective delivery of the CVQ level 1 were not put in place in Dominica and TCI before implementation.
5. The initial CVQ pilot programmes in T&T and Grenada were well resourced, however allocation of funds for the CVQ was subsequently significantly reduced.
6. Principals/administrators from Grenada and Dominica employed the Self-Sufficient TVET School model to ensure tools and consumables were available for CVQ delivery and assessment for the CVQ level 1.
7. There was physical movement of students as well as teacher exchanges to other approved centres in Dominica, TCI and T&T to facilitate practice in their particular skill areas.
8. Insufficient time was allocated for the implementation of the CVQ level 1 in secondary schools across the region. With the exception of Barbados, students in all countries experienced challenges surrounding insufficient time for the delivery of the CVQ. In addition, students in all countries were not afforded adequate time for their assessments. This was supported by teachers and principals/administrators who also identified time for conducting CBA as a challenge. Supporting each student based on the CBET philosophy was challenging for IVs due to time constraints. However, some principals/administrators adjusted timetables to accommodate delivery of the CVQ.
9. Assessment planning was negatively impacted by limited time, lack of teacher/assessor training and student absenteeism. In Barbados, assessment planning was integrated and done during normal class time so this did not pose an issue. General and not individualised assessment planning was done with students in some schools in Jamaica.
10. Teachers and principals/administrators were uncertain about whether they were employing the CBET approach for the delivery of the CVQ. According to teachers and IVs, adhering to the CBET philosophy was challenging due to already established traditional standard procedures for curriculum delivery,

lack of resources and poor students' attitude. However, principals/administrators felt that teachers were sufficiently trained at CVQ workshops to deliver via the CBET approach. Guidance for delivery via CBET was not consistently implemented by the MOEs.

11. CBA allowed some teachers to remain current and therefore better prepared to assess students.
12. Students from most countries acquired inter and intrapersonal as well as other employability skills while pursuing the CVQ level 1.
13. Students from Barbados and T&T described experiences consistent with experiential learning and appreciated the value of engaging in research activities.
14. Teachers from all countries conducted continuous assessments, scaffolded students and provided frequent feedback. Teachers in Grenada utilised the Prior Learning Assessment and Recognition (PLAR) principle and those in Jamaica aimed for mastery.
15. Teachers from all countries used data from assessments to provide feedback to students and to improve delivery.
16. Students experienced challenges with written testing for the CVQ level 1 and cited difficulty remembering the jargon associated with the occupational area pursued and lack of preparation for written tests.
17. Standardised curricula, learner and instructor guides for the CVQ level 1 were unavailable. In general, there was an absence of guidelines for the implementation of the CVQ level 1. No guidance and support were provided for assessment of the CVQ for teachers in Barbados and some in TCI. Teachers in T&T received guidance on CBA from the NTA, however, while some teachers were left on their own when preparing for internal verification, others confirmed the support of the IVs.
18. Some students felt that pen and paper activities were too excessive, and explanations/clarifications were insufficient.
19. Group assessments posed challenges for students in Jamaica due to 'social loafing' and absenteeism of peers, however, students in some countries enjoyed the benefits of teamwork during assessment.

20. Internal verifications were conducted in an ad hoc manner in all countries and with varying frequencies. Scheduling arrangements for the conduct of internal verifications was not formalised.
21. One IV in Jamaica alluded to the absence of quality in the process and the reluctance of teachers.
22. Some IVs liaised with assessors to ensure that all aspects of lesson planning and delivery were going well. However, not all IVs felt that lesson planning and delivery were part of their role.
23. All IVs in all countries alluded to heavy workloads which prevented them from performing their roles in an efficient manner.
24. IVs in all five countries monitored assessments, checked these against assessment plans to ensure that they were implemented and provided feedback to assessors. They also monitored standards, portfolio development and assessment methods. IVs provided continuous feedback to assessors and held one-on-one sessions with newly trained assessors who were paired with more experienced ones. Assessments were cross referenced with standards and curriculum in TCI to ensure validity. IVs in T&T adhered to processes and procedures in a manual to assure quality in assessments. One IV in Jamaica did not always adhere to the requirements of CBA since assessments were mainly summative. IVs in Jamaica and T&T vetted scripts.
25. Monitoring student portfolio development proved challenging for Ivs in all five countries due to heavy workloads, lack of storage space for portfolios and the absence of formalised scheduling arrangements for the conduct of internal verifications. IVs in all five countries monitored portfolio development and completion in their “free time”.
26. IVs conferred with assessors on the results of external verifications with a view to implement recommendations made by the EV. Some concerns expressed by EVs in Barbados and Jamaica as reported by IVs included lack of pictorial evidence in portfolio and no evidence to support job attachments in Barbados and Jamaica. Students were able to appeal unfavourable decisions about their competence in Jamaica.

27. Teachers from Barbados, TCI and T&T were challenged by the excessive amount of paperwork they were required to complete when delivering and assessing for the CVQ level 1.
28. Curriculum delivery for the CVQ posed challenges for teachers due to low levels of literacy in some students.
29. Student absenteeism posed curriculum delivery challenges for teachers.
30. There were deliberate attempts to pursue curriculum-related consultations by some principals/administrators, while others were incidental.
31. Some students described their invaluable real-world experiences through internships and On-the-Job training and extolled the value of simulated classroom activities.
32. Some businesses were unwilling to accommodate students at their worksites. Deterrents such as the legality issue regarding age of students vis-a'-vis engaging in employment, limited spaces to accommodate all students on the job, time period for pursuit of work attachments and lack of insurance coverage for students. In addition, some students were unwilling to participate in workplace attachments.
33. Some principals/administrators networked with industry to secure work experiences for students in close proximity to the school.
34. The system of examination for CVQ students was reviewed in Barbados, Jamaica and TCI. Portfolio assessments replaced promotional summative examinations in some schools in Barbados and students were assessed incrementally in Jamaica and the best grades summed to reflect a final mark at the end of the term.
35. There was a need to transform End-of-Term reports produced for CVQ subjects in Barbados to a format parents can appreciate.
36. Some principals/administrators experienced challenges obtaining students' final results, consequently, they are unable to maintain their official records of CVQ level 1 results at the schools.

Discussion of findings. Undeniably, the implementation of TVET curriculum is resource intensive. The findings of the study revealed that an apparent deficiency in resourcing for the implementation of the CVQ level 1 programme was

experienced by all stakeholders in all countries including students, teachers, internal verifiers and principals/administrators. Deficiencies included inadequate consumables, Personal Protective Equipment (PPE), tools and machinery for class sessions, some of which were in a state of disrepair as well as limited laboratory space which negatively impacted delivery as well as assessment for the CVQ level 1. These findings are consistent with research results of studies on the implementation of CBET and TVET conducted among secondary school students in countries within and outside of the region. Tshabalala and Ncube (2014) found that among the challenges identified in the implementation of TVET programmes in secondary schools in Zimbabwe were lack of equipment to teach in the various occupational areas and inadequate practical laboratory facilities. The results of a pre-survey of key stakeholders' attitudes towards TVET conducted in the Gaza Strip in 2013 revealed more than half of the TVET students (57%) in the survey, concurred that there was a low technical laboratory to student ratio. Fletcher (2020) also found challenges with CBET delivery in a CARICOM study such as administrative and financial issues and limited equipment to facilitate TVET delivery via CBET.

The challenges regarding resources translated into lack of readiness for implementation as articulated by principals/administrators, which impeded effective delivery. This finding was consistent with that of a study conducted by Acakpovi and Nutassey (2015) which revealed that the effective implementation of CBE was limited due to lack of and proper readiness for the CBE approach.

Teachers, principals/administrators in the study reported that disbursement of funds for purchase of equipment and materials was not consistently implemented by Ministries of Education across countries. The initial CVQ pilot programmes in T&T and Grenada were well resourced, however allocation of funds for the CVQ was subsequently significantly reduced. In addition, bureaucratic procurement procedures impeded the timely acquisition of resources in countries such as TCI, T&T and Jamaica. The challenge of sourcing adequate funding for the implementation of the CVQ level 1 in secondary schools is a herculean task given that schools are totally dependent on governments for funding, which is not sustainable. This is compounded by the bureaucracy involved in procuring resources when funds do become available. The study revealed that some principals/administrators implemented the Self-

Sufficient TVET School model which is a welcome initiative and can assist in alleviating some resourcing issues. In addition, the study revealed that initiatives were embarked on to assist in mitigating resourcing issues. For example, there was physical movement of students as well as teacher exchanges to other approved centres to facilitate practice in particular skill areas. Such initiatives can be replicated in secondary schools where feasible.

Another challenge regarding the implementation of the CVQ unearthed by this study was insufficient time for delivery and assessment for the CVQ curriculum. The nature of the CBET approach requires more time for delivery and assessment than the traditional approach to teaching and learning. Students, teachers, internal verifiers and principals/administrators were challenged by insufficient time to effectively perform their various roles in the CVQ system. Students were not afforded adequate time for delivery nor their assessments. This was supported by teachers and principals/administrators who also identified time for conducting CBA as a challenge. The issue of inadequate time for working with students was reported by vocational education teachers who participated in a survey conducted by the U.S. Department of Education on the context of vocational education in public secondary schools (National Center for Education Statistics, 1994). Internal verifiers were also challenged in supporting each student based on the CBET philosophy due to time constraints. Some principals/administrators adjusted timetables to accommodate delivery of the CVQ, however, CBA remained an issue.

Assessment planning for CBA is a participatory process where both the teacher and the students mutually agree on the time and assessment activities. This was negatively impacted by limited time and student absenteeism. To counter this issue, general and not individualised assessment planning was done with students in some schools in Jamaica. This approach is not learner-centric and may serve to compromise the credibility of the assessments. A feasible approach was taken by some principals/administrators in Barbados where assessment planning was integrated and done during normal class time.

As posited by the Federal Ministry for Economic Cooperation and Development in 2011, the successful implementation of CBET requires clear understanding that this approach is different from the traditional approach to TVET.

It also requires teachers, assessors, trainers to be well informed about the concept and the assessment procedures employed. CBET Instructor training is recommended for CVQ teachers to build their capacity in CBET methodology. The training and certification of teachers as assessors is also a quality assurance requirement that must be satisfied before claims can be made for awards. Demographic data revealed that 82% of the teachers were exposed to training in CBET, while 76% indicated that they were certified assessors. This seems inconsistent with the qualitative data gleaned from some teachers and principals/administrators who expressed uncertainty about whether they were employing the CBET approach for the delivery and assessment for the CVQ.

Some principals/administrators also lacked knowledge about CBA approaches and were heavily dependent on a CVQ manual for guidance. According to teachers and IVs, adhering to the CBET philosophy was also challenging due to already established traditional standard procedures for curriculum delivery, lack of resources and poor students' attitude. In addition, guidance for delivery via CBET was not consistently implemented by Ministries of Education. Fortunately, instructors in Jamaica were familiar with CBA given that they pursued courses of study in CBET at tertiary level TVET institutions in Jamaica. Another positive finding of the study was that the implementation of CBA provided the impetus for teachers to maintain their skill currency so that they will be better prepared to assess students. Notwithstanding the expressed unfamiliarity with CBET and CBA by teachers and principals/instructors, the study revealed that some approaches to delivery and assessment were in fact consistent with CBET and CBA.

Finch and Crunkilton (1984) and Foshay (1990) maintained that CBET focuses on the development of tasks, skills, attitudes, values and appreciations critical to success in life and/or in earning a living and employs individual approaches to instruction. Foshay (1990) also endorsed the use of Mastery-Model instruction which complements CBET and employs individualisation and self-pacing. In the study, students described experiences consistent with experiential learning and appreciated the value of engaging in research activities. They also acquired inter and intrapersonal as well as other employability skills while pursuing the CVQ level 1. Teachers from all countries also conducted continuous assessments and scaffolded students. Data

from assessments were used to provide frequent feedback to students and to improve delivery. Teachers in Grenada utilised the PLAR principle in assessment and those in Jamaica aimed for mastery. These methodologies and student outcomes are all consistent with CBET and CBA. However, the results of the study revealed that while these methodologies were employed in the delivery and assessment for CVQ level 1, teachers intermittently defaulted to their traditional style of teaching and assessment.

The study revealed that pen and paper activities were too excessive as experienced by students and that explanations/clarifications about particular topics were insufficient. Teachers were also challenged by the excessive amount of paperwork they were required to complete when delivering and assessing for the CVQ level 1. The issue of excessive amounts of paperwork required for the implementation of NVQs was highlighted in a report on NVQ implementation in the UK (Employment Department, 1993). In Jamaica, group assessments posed challenges for students due to social loafing and the absenteeism of peers, which was in contradistinction with students in other countries who enjoyed the benefits of teamwork during assessments.

Baartman et.al. (2007) posited that traditional type testing should be complementary to CBA. The findings of the study revealed that students experienced challenges with written testing for the CVQ level 1 for which they were ill-prepared, and cited difficulty remembering the jargon associated with the occupational area pursued. The issue of comprehensibility regarding the jargon associated with NVQ occupational standards was highlighted by employers in England (Roe et. Al., 2006). This begs the question whether the Regional Occupational Standards, which form the bases of the CVQ, have been translated into a language that can be understood by way of curricular guides.

The study revealed that for the most part, standardised curricula, learner and instructor guides for the CVQ level 1 were unavailable. This was compounded by minimal guidance for the implementation of the CVQ level 1. There was a lack of guidance and support for assessment of the CVQ for teachers in Barbados and some in TCI. Teachers in T&T received guidance on CBA from the NTA, however, while some teachers were left on their own when preparing for internal verification, others confirmed the support of the IVs.

Internal verifiers act as the school's quality assurance agent for the implementation of the CVQ. The study revealed that internal verifications were conducted in an ad hoc manner in five countries and with varying frequencies. Scheduling for the conduct of internal verifications was not formalised. This was inconsistent with the prescribed approach outlined by CANTA which requires the conduct of ongoing internal verification activities (CANTA, 2015). The issue of quality and consistency in assessments for VQs has been raised in various jurisdictions decades ago. Booth (2000) highlighted the need to address the issue of quality and consistency in CBA which was implemented in Australia. The Beaumont Committee also reported on the problem of consistency in assessments for NVQs in the UK (Beaumont, 1996).

The formalisation of scheduling arrangements for the conduct of internal verifications in the secondary schools may assist in bringing the process more in line with the requirements of CANTA. This may also assist in alleviating the issue of heavy workloads as described by internal verifiers and infuse more quality in the process, also, teachers and HODs may be more willing to serve as IVs. With regard to the approach to the internal verification exercise, internal verification activities described were similar to those prescribed by CANTA and CXC, however, activities described by IVs in the five countries were varied in approaches and frequencies. Internal verifiers made reference to conducting frequent meetings with assessors, however, their accounts of the activities conducted were inconsistent and sometimes vague, in addition, key processes such as sampling and standardisation were not mentioned. Notwithstanding this anomaly, some good practices were followed in Jamaica such as pairing newly trained assessors with more experienced ones.

Results of the study revealed that teachers were challenged in delivering the CVQ level 1 curriculum due to low literacy levels among students. Paradoxically, both teachers and principals/administrators in some countries channelled "slow learners" to pursue the CVQ. In addition, a principal/administrator in Jamaica suggested a policy decision for the uptake of the CVQ level 1 among students who were not performing well. These findings are comparable to those of a study conducted among principals in Grenada, where TVET offerings targeting students with weak literacy skills were recommended. However, one principal advocated for heavily skill-oriented

courses such as the CVQ for those students with the hope that their literacy skills will be improved in the future, and so afford progression to higher qualifications (Knight, 2014).

The flexibility of the CVQ will certainly allow students to “bank” units/credits which can be used for both vertical and horizontal articulation in the education and training system. There is much interest in micro-credentials in the education and training landscape which is being touted as a viable way to innovate learning programmes and allow for progression. This is akin to the flexibility of the CVQ. There is a need to highlight this feature of the CVQ to make it attractive for all students in the secondary school system. In so doing, teachers can be more agile to the needs of their students.

The implementation of co-curricular activities such as field trips and work experience for CVQ students is a quality assurance requirement for the CVQ. Although some CVQ students described their invaluable real-world experiences through internships and On-the-Job training, some businesses were unwilling to accommodate students at their worksites. Deterrents included the legality issue regarding age of students, vis-a'-vis engaging in employment, limited spaces to accommodate all students on the job, time period for pursuit of work attachments and lack of insurance coverage for students. In addition, some students were unwilling to participate in workplace attachments. This stymied the efforts of teachers and principals/administrators to secure workplace attachments for students. A study conducted by Tshabalala and Ncube (2014), also found that teachers were unable to secure industrial attachment for TVET students in Zimbabwe. Principals/administrators involved in the implementation of the CVQ endeavoured to address this challenge by networking with industry where feasible, to secure work experiences for students in close proximity to the school. Efforts such as these should be encouraged.

The nature of CBA requires that reporting results for the CVQ focus on assessment outcomes. The study revealed that the system of examination for CVQ students was reviewed in Barbados, Jamaica and TCI. Portfolio assessments replaced promotional summative examinations in some schools in Barbados and students were assessed incrementally in Jamaica and the best grades summed to reflect a final mark

at the end of the term. Booth (2000) highlighted the need to address the reporting of results and the recognition of student achievement for CBA. The reporting of results for the CVQ at the level of the school, as well as students' final results require a consistent approach that is understood by all stakeholders. In addition, the lag experienced by some principals/administrators in obtaining students' final CVQ level 1 results and failure to obtain an official record of CVQ level 1 results for inclusion in the school's database may negatively affect stakeholders' trust in the qualification.

Research Question 3

The extent to which the CBET approach was employed for both delivery and assessment for the CVQ level 1 from the perspective of select students, teachers, internal verifiers.

Summary of findings. Quantitative data suggested a moderate degree of understanding of the benefits of the CVQ among students in all countries. It was hypothesised that there was no significant difference in the understanding of the benefits of the CVQ level 1 among students in the six CARICOM states. The findings did not support the hypothesis. The results of a Tukey post hoc test suggested that students in Dominica had a better understanding of the benefits CVQ programme than their counterparts in Jamaica ($p = .003$).

Students reported a high level of awareness of safety requirements for occupational areas pursued. The study hypothesised that there was no significant difference in the awareness of safety requirements for occupational areas pursued among students in the six CARICOM states. The findings supported the hypothesis as the data set provided insufficient data to conclude that there is a difference among students' awareness of safety requirements for occupational areas pursued.

There was a moderate level of satisfaction with the knowledge and experience gained in the CVQ level 1 programme. The study hypothesised that there was no significant difference in satisfaction with the knowledge and experience gained in the CVQ level 1 programme in the six CARICOM states. The findings did not support the hypothesis, as the results of the Tukey post hoc test suggested that students' satisfaction with the knowledge and experience gained in the CVQ level 1 programme in Barbados were significantly higher than those in Jamaica ($p = .01$). Students'

satisfaction with the knowledge and experience gained in the CVQ level 1 in Dominica were also significantly higher than those in Jamaica ($p = .05$).

With regard to resources to support CBET, quantitative data suggested that in general, students moderately believed that resources were adequate to support the implementation of the CVQ via the CBET approach. The study hypothesised that there was no significant difference in students' perceptions of the adequacy of resources to support the implementation of the CVQ via the CBET approach. The findings did not support the hypothesis as the Tukey post hoc suggested that there was greater consensus among students in T&T that resources were adequate to support the implementation of the CVQ than those in Jamaica ($p = .010$).

Quantitative data revealed that students selected responses for curriculum delivery that were in keeping with the requirements for the CBET approach. It was hypothesised that there was no significant difference in students' perceptions regarding the extent to which curriculum delivery was in keeping with the requirements of the CVQ via the CBET approach in the six CARICOM states. The findings did not support the hypothesis as the Tukey post hoc test suggested that there was significantly greater agreement among students from Dominica than Barbados ($p = .05$), Dominica than TCI ($p = .01$), Dominica than T&T ($p = .010$) and Dominica than Jamaica ($p = .001$), that curriculum delivery was in keeping with the requirements for the CVQ via the CBET approach.

Regarding assessment practices, the results of the study revealed that in general, students perceived assessment approaches as in keeping with CBA. The study hypothesised that there was no significant difference in students' perceptions regarding the extent to which assessment approaches were in keeping with the requirements of CBA for the CVQ. The findings did not support the hypothesis as the results of the Tukey post hoc test suggested that there was greater agreement on the extent to which assessment practices for the CVQ was in keeping with CBA among students from Barbados than Grenada ($p = .03$). There was also greater agreement among students from T&T than those from Jamaica ($p = .01$) and Grenada (.000).

The findings indicated that there were statistically significant differences among students in all countries in instructional/delivery strategies such as lecture ($p = .001$), brainstorming ($p = .02$), use of videos ($p = .001$), small group discussion ($p =$

.001), case studies ($p = .001$), role playing/simulation ($p = .001$), field trips ($p = .001$) and peer tutoring/coaching ($p = .001$).

Overall, the most popular delivery/instructional strategies selected by students were class discussion (89.5%), followed by practical demonstration (79.4%). Lecture was selected by 48.8% of the students. The least popular delivery/instructional strategies selected were case studies (21.3%) and field trip (25.2%).

Pearson's Chi-square was also used to determine if there were differences in assessment strategies employed among the six CARICOM states from the perspective of the student. Findings revealed that there were statistically significant differences in oral questioning/presentation ($p = .001$), written testing ($p = .02$), portfolio assessment ($p = .001$) and project ($p = .001$).

Overall, the assessment strategies most frequently selected by students were portfolio (78.1%), practical demonstration (73.7%) followed by oral questioning/presentation (69.8%). Written testing was selected by 68.6% of the students. The least popular assessment strategies selected were professional discussion (40.5%), followed by product examination (42.8%).

Quantitative data suggested a high degree of familiarity with the requirements and benefits of the CVQ among teachers in all countries. The study hypothesised that there was no significant difference in teachers' familiarity with the requirements and benefits of the CVQ level 1 among teachers in the six CARICOM states. The findings supported the hypothesis as the data set provided insufficient data to conclude that there was a difference among teachers' familiarity with the requirements and benefits of the CVQ level 1 programme.

With regard to teachers' capacity, an overall high grand mean score of 4.33 and a standard deviation of .766 implied that in general, teachers strongly believed that they possess the abilities, skills and expertise to effectively deliver the CVQ via the CBET approach. The study hypothesised that there was no significant difference in teachers' capacity to deliver the CVQ level 1 via the CBET approach in the six CARICOM states from the perspectives of the teachers. The findings supported the hypothesis which means that there was insufficient data to conclude that there is a difference in teachers' perceptions in the six CARICOM states of their capacity to deliver the CVQ level 1 via the CBET approach.

In general, there was uncertainty among teachers in the six CARICOM states concerning satisfaction of OSH requirements for the CVQ level 1 programme. The study hypothesised that there was no significant difference in the satisfaction of OSH requirements for CVQ occupational areas pursued in the six CARICOM states from the perspectives of the teachers. The findings supported the hypothesis. This means that the data set provided insufficient data to conclude that there is a difference in satisfaction of OSH requirements for CVQ level 1 occupational areas from the perspectives of the teachers.

In relation to resources to support CBET, teachers in the six CARICOM states reported uncertainty among teachers about the adequacy of resources to support CBET. The study hypothesised that there was no significant difference in teachers' perceptions of the adequacy of resources to support the implementation of the CVQ level 1. The findings supported the hypothesis which means that there was insufficient data to conclude that there is a difference in teachers' perceptions about the adequacy of resources to support the implementation of the CVQ via the CBET approach.

Quantitative data implied that in general, teachers strongly believed that they possess the abilities, skills and expertise to effectively deliver the CVQ via the CBET approach. The study hypothesised that there was no significant difference in teachers' capacity to deliver the CVQ level 1 via the CBET approach in the six CARICOM states from the perspectives of the teachers. The findings supported the hypothesis which means that there was insufficient data to conclude that there is a difference in teachers' perceptions in the six CARICOM states of their capacity to deliver the CVQ level 1 via the CBET approach.

Quantitative data suggested moderate agreement among teachers that curriculum delivery was in keeping with CBET. It was hypothesised that there was no significant difference in teachers' perceptions regarding the extent to which curriculum delivery for the CVQ level 1 was in keeping with the CBET approach. The findings supported the hypothesis. This means that there was insufficient data to conclude that there is a difference in teachers' perceptions in the six CARICOM states that curriculum delivery for the CVQ level 1 is in keeping with CBET.

In general, teachers believed that assessment practices were in keeping with CBA. The study hypothesised that there was no significant difference in teachers'

perceptions regarding the extent to which assessment approaches were in keeping with the requirements of CBA for the CVQ level 1 in the six CARICOM states. The findings supported the hypothesis, which means that the data set provided insufficient data to conclude that there is a difference in teachers' perceptions in the six CARICOM states regarding the extent to which assessment approaches were in keeping with the requirements of CBA for the CVQ level 1.

Given the small sample size of teachers, Fisher's exact test was used to determine if there were differences in the delivery/instructional strategies employed among teachers in the six CARICOM states. The findings revealed that there was a statistically significant difference in lecture ($p = .05$) where overall, 64% of the CVQ teachers identified lecture as their preferred instructional/delivery strategy. The selection of lecture ranged from 35.3% in T&T to 100% in Dominica and TCI.

Though not statistically significant, the most popular delivery/instructional strategies used were lecture discussion (90%), followed by class discussion (88%). The least popular delivery/instructional strategies used were peer tutoring/coaching (22%) and role play/simulation (56%).

Fisher's exact test was used to determine if there were differences in assessment strategies employed among teachers in the six CARICOM states. The findings revealed that there was a statistically significant difference in portfolio assessment ($p = .05$) where overall, 85.7% of the CVQ teachers identified portfolio as an assessment strategy utilised.

Though not statistically significant, the most popular assessment strategies selected were oral questioning (93.9%), followed by written testing (91.8%) and observation/practical demonstration (91.8%). The least popular were professional discussion (20.4%) and Expert Witness testimony (22.4%).

The study revealed that there was moderate agreement by IVs in the five countries that procedures for the procurement of resources such as preparation and approval of budgets, requisition processes, and the maintenance of an inventory listing of equipment materials and tools were in place. The study hypothesised that there was no significant difference in internal verifiers' perceptions of the implementation of procedures for the procurement of resources to support the delivery and assessment of the CVQ level 1 via the CBET approach. The findings supported the hypothesis,

which means that there was insufficient data to conclude that there is a difference in internal verifiers' perceptions regarding the implementation of procedures for procurement of resources to support the delivery and assessment of the CVQ level 1 via the CBET approach in the five CARICOM states.

With regard to internal verifier practices, quantitative data suggested moderate agreement and consensus among IVs in the five CARICOM states. This implied that IVs in these countries moderately agreed that they adhere to internal verifier practices such as, inter alia, liaising with assessors to provide feedback and guidance on standards and assessment outcomes and monitoring students' portfolio development and completion. It was hypothesised that there was no significant difference in internal verifier practices for the CVQ level 1 in the five CARICOM states. The findings supported the hypothesis which means that the data set provided insufficient data to conclude that there is a difference in internal verifier practices for the CVQ level 1 programme in the five CARICOM states.

Discussion of findings. Quantitative results of the study suggested that students in Dominica had a significantly better understanding of the CVQ programme than their counterparts in Jamaica. The findings also suggested that students' satisfaction with the knowledge and experience gained in the CVQ level 1 programme in Dominica was also significantly higher than that of their peers in Jamaica. Similarly, satisfaction with the knowledge and experience gained in the CVQ level 1 programme for students in Barbados was also significantly higher than students in Jamaica.

From my knowledge of working in the system, better understanding of the CVQ programme and greater satisfaction with the knowledge and understanding gained in the CVQ level 1 programme by students in Dominica might have occurred because of the schools' effort in partnering with industry in Dominica. For example, CVQ students pursuing Garment Manufacturing were afforded the opportunity to acquire on-the-job experience at a garment factory in Dominica. Some students were guaranteed employment on completion of the CVQ. In fact, there were anecdotal accounts of the employer's satisfaction with the performance of the students. In addition, heavy duty sewing machines, similar to those used at the factory were donated by an international aid organisation to the school, and so the students' level of familiarity with those machines provided that added advantage. Although Jamaica

is usually the first “out of the starting block” where TVET is concerned, the uptake of the CVQ by secondary school students in Jamaica was not immediate subsequent to the decision taken by COHSOD to implement the CVQ level 1 in secondary schools in the region. Notwithstanding the differences in comprehension about the CVQ and their varying levels of satisfaction, it is comforting to know that there was a high degree of familiarity with the requirements and benefits of the CVQ among teachers in all countries.

In general, there was moderate belief among students in all countries that resources were adequate to support the implementation of the CVQ via the CBET approach. However, there was significantly greater consensus among students in T&T than those in Jamaica. This was supported by qualitative data gleaned from students in T&T and Jamaica. While students in T&T spoke about equipment malfunction, those in Jamaica referred to limited equipment and not having enough materials to share.

In contrast, teachers in the six CARICOM states reported uncertainty about the adequacy of resources to support CBET. However, although not statistically significant, there were no differences in their perceptions about the adequacy of resources to support the implementation of the CVQ via the CBET approach.

There was moderate belief among students in all countries that curriculum delivery for the CVQ is in keeping with CBET. Again, there was significantly greater agreement among students from Dominica than Jamaica. In addition, there was also significantly greater agreement among students from Dominica than those in Barbados, TCI and T&T. Similarly, there was moderate agreement among teachers in the six CARICOM states that curriculum delivery was in keeping with CBET. However, unlike the results for students, there were no significant differences among teachers in the six CARICOM states that curriculum delivery was in keeping with CBET.

The belief among students and teachers that curriculum delivery for the CVQ was in keeping with CBET was supported by quantitative data on instructional/delivery strategies employed by teachers as reported by students. Though not encouraged in a CBET environment, lecture was most frequently used in Dominica and TCI, while it was least used in Barbados. Lecture, video shows and

peer tutoring/coaching were most popular among students in Dominica. Instructional/delivery strategies most popular among students in Barbados were class discussion, small group discussion lecture discussion and role play/simulation. The instructional delivery strategies most frequently selected by students in T&T were class discussion, lecture discussion and small group discussion. Interestingly, instructional delivery strategies more consistent with CBET such as role play/simulation and field trip were the most popular among students in Barbados. In addition, quantitative findings regarding practical demonstration, though not significant was most popular among students in Barbados. It is important to note that field trip was not a popular choice among students in all countries. The low percentage of students selecting field trips may account for the challenges experienced by teachers and principals/administrators in organising field trips and work attachments for students. However, networking initiatives by principals/administrators in Barbados may account for the popularity of field trips among students in Barbados. Further, this quantitative finding corroborates with qualitative data obtained from students in Barbados where they described invaluable real-world experiences through internships and on-the-job training for the CVQ.

Contrary to findings from students, quantitative data from teachers revealed that the only statistically significant difference among countries with regard to instructional/delivery strategies was lecture.

Interestingly, although not significant, the use of practical demonstration as a delivery strategy was consistent among both students and teachers. This finding corroborates with qualitative data obtained from students and teachers which unearthed their experiences with experiential learning that were consistent with CBET.

The most popular assessment strategies selected by students in T&T were portfolio assessment, oral questioning/presentation and observation/practical demonstration. This is not a surprising finding given greater agreement by students in T&T that assessment practices were in keeping with the requirements of CBA. Portfolio assessment, oral questioning/presentation and observation/practical demonstration are three primary assessment strategies recommended for CVQ level 1. On the other hand, the most popular assessment strategies selected by students in Barbados were observation/practical demonstration, portfolio assessment and written

testing respectively. A significantly a smaller number of students in Grenada and Jamaica selected observation/practical demonstration than those in Barbados and T&T.

Like their students, there was moderate belief among teachers in all countries that assessment practices were in keeping with CBA. However, unlike the findings for students in the study, there were no significant differences in teachers' perceptions regarding the extent to which assessment approaches were in keeping with the requirements of CBA for the CVQ level 1.

This was also in keeping with the selection of assessment strategies as there were no significant differences in the selection of assessment strategies among teachers in the six CARICOM states. Teachers' indication of the use of oral questioning was much greater than reported by students. Also, a greater number of teachers than students indicated that observation/practical demonstration was used as an assessment strategy. While written testing was selected by 68.6% of the students, it was selected by 91.8% of the teachers.

The finding suggests the presence of the concept of self-verification and its connection to higher levels of commitment. Although not significant, one of the findings of the study revealed that teachers strongly believed that they possess the abilities, skills and expertise to effectively deliver the CVQ via the CBET approach. Moreover, the study unearthed rich, telling responses from most teachers which may translate into high levels of commitment to efficient implementation of the CVQ level 1 in secondary schools. Efforts should be made to harness opportunities such as these where they exist, with a view to building the human resource capacity for more effective and efficient CVQ level 1 programme.

Recommendations

The implementation of the CVQ was in response to the need for TVET reform in secondary schools in the region. The findings of this study revealed that the implementation steps as outlined by the CARICOM Regional TVET Strategy for Workforce Development and Economic Competitiveness (CANTA, 2012) viz., promotion, scheduling, resourcing and staffing have not been consistently implemented across the region. Results of the study unearthed several challenges as well as some areas of good practices regarding implementation that can be replicated

where feasible. Recommendations are therefore proposed for policy, practice and future research with a view to bolster the CVQ system for a more coherent, efficient and effective CVQ level 1 programme in secondary schools. Recommendations for policy were further disaggregated into national sectoral and institutional.

Recommendations for Policy

National policy areas

Uptake of the CVQ level 1. The findings of the study revealed that the uptake of the CVQ level 1 differed in schools across the region, with students in some instances given the option to choose, while for others, it was mandatory. In addition, teachers were challenged by the breadth of the content to be covered for the CVQ which is quite extensive and, in some instances, and suggested that the programme be introduced in the lower forms. Definitive policies governing the uptake of the CVQ level 1 in secondary schools should be established across territories, with impetus from the respective MoEs in collaboration with CANTA to address this critical area. Embedding the CVQ level 1 in subject offerings may serve to raise the level of awareness of the CVQ. Foundation vocational programmes can also be instituted at earlier levels of secondary school system for smoother transition to the CVQ programme.

Marketing and advocacy. The results of the study revealed the communication of erroneous information from all stakeholders about the CVQ level 1 which served as a deterrent to students' decision to pursue the CVQ. Partnership will be required across MoEs, NTAs/TVET apex bodies and secondary schools to establish National Campaigns targeting all stakeholders within the CVQ system as well as parents, community leaders and industry.

The perception of TVET must be elevated and must be seen as having the same value as academia. There must therefore be consistent and correct messaging regarding the CVQ to minimise incidences of erroneous information in the public domain. The narrative surrounding the CVQ should be disassociated from historical terminologies such as “stigma”, “slow-learners”, “not academically inclined” to name a few and replaced by, repeated alongside or connected with only positive language that references the CVQ as enablers and paths to economic development.

Career guidance. The CVQ should be prioritised as a direct path to career selection with a view to providing clarity about the relationship between the CVQ and students' future career paths. The links between CVQ skills, and award and career opportunities should be illustrated so that students are confident of the merit in choosing those subject areas. Career guidance and counselling could further persuade students into considering the pursuit of the CVQ.

Sectoral policy areas

Roles and responsibilities of stakeholders. A level of uncertainty among teachers, internal verifiers and principals/administrators regarding their respective roles, supports the suggestion that clearly defined roles and responsibilities are required for stakeholders involved in the planning and implementation for the CVQ level 1 at the level of the MoE, the school and the NTAs. Continued assistance should be given to teachers/assessors/verifiers to equip them with the necessary skills to achieve and maintain quality in the CVQ system.

MoE. There is a need for the deliberate appointment of persons to perform defined roles within the CVQ context, such as internal verifiers and CVQ Coordinators. Consideration can be given to contractual arrangements with commensurate compensation.

There should be continuous professional development for staff in terms of pedagogy as well as technical skills. Emphasis should be placed on CBET instructor training for teachers as well as principals/administrators within the schools. Teachers should also be supported to achieve CVQ Instructor, Assessor and Verifier qualifications.

TVET apex bodies/NTAs. The roles and responsibilities of the NTAs/TVET apex bodies and MoEs should be clearly defined, noting the varying stages at which CXC becomes involved in the implementation process for each territory. The various aspects namely readiness, monitoring and verification must be more clearly articulated and documented. This may improve the transfer of information, requirements and responsibilities to persons at the operational levels such as the principals/administrators, teachers, HODs and verifiers.

Revising the implementation/ introduction stage of CVQ. Findings in the study revealed the lack of readiness for the implementation of the CVQ. The

change from the traditional to the CBET approach requires new or revised teaching and assessment methodologies and instructional resources. Curriculum reform must follow through more systematically with the stages in the diffusion of innovation to be effective. This will involve adjusting the current implementation parameters for the CVQ in secondary schools and may lead to a greater level of readiness. In addition, all the necessary procedures and resources must be in place.

Operational guidelines for the implementation of the CVQ level 1.

Findings in the study revealed a general lack of guidelines for the implementation of the CVQ level 1. In an effort to address queries or inconsistencies in implementation practices the MoEs across the region should establish operational guidelines for the implementation of the CVQ level 1. These guidelines will assist in alleviating the challenges identified by stakeholders within the secondary school system with respect to planning, budgeting and scheduling for the implementation of the CVQ.

Institutional policy areas

Resourcing for the CVQ level 1. The model of school-dependence on governments funding is not considered sustainable and highlights that funding remains an issue for the implementation of the CVQ if not addressed. Principals/administrators are also challenged by the bureaucracy involved in procuring resources when funds do become available. The Ministries should revisit existing procurement policies in the school system with a view to easing constraints in procuring consumables, materials and equipment for the implementation of the CVQ. This study also unearthed some best practices that can contribute to making the implementation of the CVQ more economical.

The study revealed that the Self-Sufficient TVET School model is being utilised in some schools across the region. Based on my anecdotal experience this model has been used by TVET instructors to cushion the impact of a lack of resources in their various occupational areas. However, there is hesitance by some given the absence of guidelines from the Ministries. Ministries should work to formalise this model by providing relevant guidelines on procurement, inventorising and record keeping/accounting.

Another good practice revealed in the study was resource-sharing, for example, physical movement of students as well as teacher exchanges to other approved centres

to facilitate practice in particular skill areas. Guidelines developed by the various MoEs will assist in formalising this approach so that it can be replicated in secondary schools where feasible.

Field trips and work attachments. As part of the quality assurance requirements for the CVQ, engagement in field/ internship contexts relative to the various CVQ subjects is critical. However, challenges in insurance coverage and other legal issues surrounding age restrictions in certain work environments limits these opportunities for students. The Ministries should revisit existing policies so as to more adequately facilitate this provision in territories where it is feasible to do so. While in other regions, consideration can be given to inviting employers into the school environment to set up simulation hubs/ areas as well as provide accompanying technical personnel to mentor within the school. Business, training and skills incubators established in the vicinity of secondary schools or somewhere accessible to students will assist in honing their competencies in an authentic/real-world context.

Recommendations for Best Practice

Timely release of CVQ/CXC results. The awarding body could consider reviewing the release of the CVQ results within the same timeframe as other standard awards. This may enhance the credibility/parity of esteem of the CVQ award and maintain the view that it is the same as other awards/qualifications.

Establishing buddy system/cooperative arrangements. Cooperative arrangements where more experienced schools are partnered with those considered burgeoning or less established should be encouraged.

Timetabling for the CVQ. The formalising of arrangements as it relates to timetabling for the CVQ subjects is necessary to allow for more structured delivery. A standardised time frame or set periods can be introduced rather than the existing ad hoc delivery found in many secondary schools within the region. The time frames allocated should also be extended to support the robust demands of the CVQ level 1 programme.

Standardising instructional content. The study revealed that for the most part, standardised curricula, learner and instructor guides for the CVQ level 1 were unavailable. The curriculum units in the various MoEs in the region should invest in developing overarching curriculum framework and curricula, as well as provide

support with standardised instructional packages/content/resources for the CVQ subject areas. This may assist guide instructors in integrating more of the expected CBET methodologies associated with the CVQ level 1 programme. The approach may also limit the time teachers previously spent on producing their own lesson plans, teaching resources and materials. A comprehensive curriculum framework may also serve to support articulation to academic areas.

Reducing documentation. The iteration from practitioners' points to the need for a reduction in the documentation required for CVQ. In this regard, efforts should be made to capitalise on the available technology resources/ tools to ameliorate the complaint. Documentation can be converted into formats to reduce tedious and onerous efforts.

User friendly in-school CVQ assessment reports. Teachers recognised the need to transform End-of-Term reports produced for CVQ subjects to a format that parents can appreciate. This requires the presentation of CVQ results in a manner that is clear and digestible, not only for parents but for all stakeholders inclusive of students.

Implications for Future Research

This study focused on the inputs and process involved in the implementation of the CVQ. There is a need for further investigation into other aspects of the process in the CVQ system as well as outputs. In that regard, the following areas for future research are proffered.

- Investigate how the CVQ level 1 can be implemented in a more economical manner.
- Explore the feasibility of preparing students for the pursuit of the CVQ level 1 by implementing foundation vocational programmes in the lower forms.
- Investigate the potential for diverse team-teaching/networking across institutions/ industry/regions using available ICT infrastructure.
- Explore the viability of e-Assessments for the CVQ.
- Investigate the effectiveness and cost-effectiveness of the CVQ level 1 programme.

Limitations of the Study

In addition to the anticipated limitations outlined in Chapter one of this study, several other challenges arose. For example, given the dearth of research in the TVET arena in the Caribbean, no relevant literature was found to support the findings revealed from mixing of the data presented in Research Question three. In addition, this mixed methods study yielded an inordinate amount of data and subsequent findings which posed a challenge in adhering to the word limit for the study.

Conclusion

This mixed methods study investigated/explored stakeholders' perceptions about the CVQ to determine its impact on the delivery and assessment for the CVQ level 1 among selected secondary schools in the six CARICOM states. The study also investigated stakeholders' experiences in the delivery and assessment for the CVQ to determine the extent to which the approaches employed in the delivery and assessment for the CVQ were in accordance with CBET.

The conceptual framework for the study was adapted from the CARICOM approved "Model of Certification for Basic Labour Competencies". The concepts within the model are based on the processes for implementation of the CVQ, the theories underlying CBET, the relationship among the stakeholders involved in implementation as well as the relationships among the identified concepts.

The qualitative phase of the study explored stakeholders' perceptions and experiences about the CVQ level 1 programme by conducting focus group sessions and interviews among stakeholders in selected secondary schools in the six CARICOM states that have implemented the programme. The quantitative phase of the study surveyed students, teachers and internal verifiers to determine if the approaches employed in the delivery and assessment of the CVQ were in accordance with CBET.

A paucity of research on the implementation of TVET also applies to the CARICOM region, therefore, the literature presented findings from a number of research studies have been conducted in various parts of the world on students' perceptions towards vocational education. Almost all of the research conducted alluded to the dearth of research in vocational education. The literature also provided a background on the implementation of TVET in the region and the genesis of the CVQ.

Findings of the study were consistent with those found in the literature such as the existence of a negative perception of TVET and by extension the CVQ, the challenges in resourcing the delivery and assessment for the CVQ level 1 and timetabling challenges among others. The results of the study also unearthed some good practices for cushioning the impact of limited resources such as implementation of the Self-Sufficient TVET School, and resource sharing practices such as the physical movement of students as well as teacher exchanges to other approved centres. In general, from the perspectives of students, teachers and principals/administrators, delivery and assessment approaches were consistent with CBET. However, while there were no statistically significant differences among teachers and internal verifiers regarding resources to support curriculum delivery and assessment practices, there were significant differences among student in all three variables.

Recommendations were proposed for policy, practice and future research with a view to bolster the CVQ system for a more coherent, efficient and effective level 1 programme. Recommendations for policy focused on uptake of the CVQ level 1, clear delineation of roles and responsibilities of stakeholders, and resourcing for the CVQ level 1. Given the findings in this study, future research should focus on how CVQ level 1 can be implemented in a more economical manner, the feasibility of preparing students for the pursuit of the CVQ level 1 by implementing foundation vocational programmes in the lower forms, the potential for diverse team-teaching/networking across institutions/ industry/ regions using available ICT infrastructure, the viability of e-Assessments for the CVQ and the effectiveness and cost-effectiveness of the CVQ level 1 programme.

The study revealed that teachers strongly believed they possess the abilities, skills and expertise to effectively deliver the CVQ via the CBET approach. Moreover, the study unearthed rich, telling responses from most teachers, principals/administrators and verifiers which may translate into high levels of commitment to efficient implementation of the CVQ level 1 in secondary schools. Efforts should be made to harness opportunities such as these where they exist, with a view to building the human resource capacity for a more effective and efficient CVQ level 1 programme. The study also suggests that a holistic approach to the

implementation of the CVQ level 1 is vital to make it meaningful and to achieve the success required for its beneficiaries.

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APPENDICES

APPENDIX A – Student focus group questionnaire guide

Education researchers from the Faculty of Education of The University of the West Indies, at St. Augustine are conducting research on the implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools. You have been chosen to answer some questions relating to the delivery and assessment for the CVQ. The interviewer will be recording your responses with a tape recorder and will also be writing your responses verbatim. Your identity as well as your responses will remain confidential.

FOCUS GROUP INTERVIEW GUIDE (STUDENTS)

Overarching Question

What are students' perceptions of the CVQ?

Probes

1. How do you feel about the CVQ as a career option?
2. Who are the main persons that influence your decision to pursue the CVQ?
(administrators/teacher/peer/career advisor/society?)
3. How do you feel about the value of acquiring hands on skills?
4. What critical factors affect your decision about pursuing the CVQ?
5. What do you think are the advantages and disadvantages of pursuing the CVQ?
6. Describe your experiences with your assessment for the CVQ.

APPENDIX B - Focus group interview guide (teachers)

Education researchers from the Faculty of Education of The University of the West Indies, at St. Augustine are conducting research on the implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools. You have been chosen to answer some questions relating to the delivery and assessment for the CVQ. The interviewer will be recording your responses with a tape recorder and will also be writing your responses verbatim. Your identity as well as your responses will remain confidential.

FOCUS GROUP INTERVIEW GUIDE (TEACHERS)

Overarching Question

How do teachers' perceptions about the CVQ influence (i) delivery (ii) assessment for the CVQ

1. How do you feel about the CVQ as a career option?
2. How much influence do you think school administrators/teachers/peers/career advisors/society have on students who pursue the CVQ? Who has greater influence?
3. How much value do you place on students acquiring hands on skills in the delivery of the CVQ?
4. What views or opinions have students reported to you about the value of acquiring hands on skills?
5. What critical factors do you believe affect students' decision about pursuing the CVQ?
6. What kind of guidance and support is provided to you for the delivery of the CVQ programme?
7. What kind of guidance and support is provided to you for the assessment of the CVQ using CBA?
8. What kind of professional development opportunities are provided to you at your school?

9. What are your experiences with regard to delivering the curriculum for the CVQ using the CBET approach?
10. Do you believe that the CBET approach can be effectively used for the delivery of the CVQ? Why? Why not?
11. In your opinion, what are the advantages and disadvantages of competency-based assessment (CBA) for the CVQ?
12. What is your opinion regarding the guidelines that require you to conduct continuous assessment with your CVQ students?
13. What are your experiences with regard to assessing students for the CVQ?
14. How do you use the data collected from assessments to improve delivery?

APPENDIX C - Administrator interview protocol

Education researchers from the Faculty of Education of The University of the West Indies, at St. Augustine are conducting research on the implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools. You have been chosen to answer some questions relating to the administrative requirements for the CVQ. The interviewer will be recording your responses with a tape recorder and will also be writing your responses verbatim. Your identity as well as your responses will remain confidential.

How do administrators' perceptions about the CVQ influence

(i) delivery of the CVQ curriculum and (ii) assessment for the CVQ?

1. How do you feel about the CVQ as a career option for students?
2. What role can the Ministry of Education play in ensuring effective delivery of the CVQ Programme?
3. What kind of professional development opportunities do you provide for your CVQ teachers, IVs and Coordinators?
4. How do your CVQ teachers, IVs and coordinators respond to these professional development opportunities?
5. What are the distinctive characteristics of your school that make it unique and therefore appealing for the delivery of the CVQ Programme?
6. What are the distinctive characteristics of your school that make it unique and therefore appealing for the assessment of the CVQ?
7. How do you engage in curriculum-related consultations with other schools that deliver the CVQ Programme?
8. How do you ensure that your school has a climate that supports the delivery of the CVQ Programme?
9. What attitudes or practices of local institutions are likely to impact your school's ability to implement the CVQ Programme?
10. What kind of guidance and support given to staff for the delivery of the CVQ Programme using the CBET approach.

11. What kind of guidance and support given to staff for the assessment of the CVQ using CBA?

Experiences of administrators in the delivery of the CVQ curriculum using the CBET approach

12. How do you ensure that your staff has a clear understanding of the requirements for the delivery of the CVQ Programme using the CBET approach?
13. How do you ensure that every CVQ teacher accepts responsibility to support each student based on the CBET Philosophy? (Learner centred at own pace, ‘every child can learn’)
14. How does your school ensure that the CVQ Programme suit the needs of your students?
15. How do you ensure compliance with the recommendations from NTA/CXC Facilities Audit?
16. Describe your experiences regarding preparation of budgets for delivery of the CVQ programmes offered?
17. How do you treat with ensuring the quality of lesson planning and delivery?
18. How do you use the results of internal assessments to inform CVQ Programme delivery?
19. How do you use the results of external assessments to inform CVQ Programme delivery?
20. Does your school receive the results of the CXC Quality Assurance audit? Tell me about implementing recommendations from these results?
21. Describe your experiences that relate to providing opportunities for authentic work exposure for students pursuing the CVQ?

Experiences of administrators in the assessment for the CVQ using the CBET approach?

22. How do you ensure that your school has appropriate resources to conduct continuous assessment for the CVQ?
23. Describe your experiences regarding preparation of budgets for assessment of the CVQ programmes offered?
24. How do you gauge the adequacy and sufficiency of assessments conducted by CVQ teachers?
25. How do you treat with assuring quality in assessment planning?

26. How do you treat with the conduct of assessments?

APPENDIX D – Heads of department/internal verifier interview protocol

Education researchers from the Faculty of Education of The University of the West Indies, at St. Augustine are conducting research on the implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools. You have been chosen to answer some questions relating to the administrative requirements for the CVQ. The interviewer will be recording your responses with a tape recorder and will also be writing your responses verbatim. Your identity as well as your responses will remain confidential.

1. Have you been trained and certified as an Internal Verifier (IV)?
2. What is your role in ensuring effective delivery of the CVQ Programme?
3. What kind of guidance and support is provided to you to carry out your role as an IV?
4. What kind of professional development opportunities are provided to you at your school?
5. How often is Internal Verification conducted?
6. How do you ensure that assessors are adhering to the required assessment procedures and practices for the CVQ?
7. How do you treat with newly trained assessors?
8. How do teachers respond to your feedback and guidance on standards and assessment outcomes?
9. How do you ensure that every CVQ teacher accepts responsibility to support each student based on the CBET Philosophy? (Learner centred, at own pace, ‘every child can learn’)

10. How do you ensure that every CVQ teacher adheres to the CBA Philosophy when assessing candidates for the CVQ?
11. How do you gauge the adequacy and sufficiency of assessments conducted by CVQ teachers?
12. How do you treat with ensuring the quality of lesson planning and delivery?
13. How do you treat with ensuring quality of assessment planning?
14. How do you treat with the conduct of assessments?
15. Describe your role in student portfolio development and completion.
16. How do you use the results of external verifications conducted?
17. How do you implement recommendations from the results of the CXC/NTA Quality Assurance Audit?
18. Describe your experiences with the preparation of budgets for assessment of the CVQ programmes offered?
19. Describe your experiences in performing your role as an IV?

APPENDIX E – Student Questionnaire

Instructions

Dear Student:

Education researchers from the Faculty of Education of The University of the West Indies, at St. Augustine are conducting research on the implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools. You have been chosen to fill out a survey relating to the implementation of the CVQ at your school. Read each item and select the best response by placing a tick ☒ in the corresponding box or write your responses in the space provided. **BE SURE TO ANSWER EVERY QUESTION. Your identity as well as your responses will remain confidential.**

Demographics

1. Sex:

☐

Male

☐

Female

2. Age:

☐

14 years old

☐

15 years old

☐

16 years old

☐

17 years and over

3. Form:

☐

Four

☐

Five

4. Which CVQ Programmes are you enrolled in?

--

Please indicate the extent to which you agree or disagree with the following statements by ticking the appropriate box from Strongly Agree (1) to Strongly Disagree (5).

	Requirements for the CVQ	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
5.	I understand the benefits of the CVQ.	☐	☐	☐	☐	☐

Resources

Please indicate the extent to which you agree or disagree with the following statements by ticking the appropriate box from Strongly Agree (1) to Strongly Disagree (5).

	Resources	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
6.	Tools and equipment are adequate for effective completion of the units.	☐	☐	☐	☐	☐
7.	I assist in maintaining workshop, tools and equipment.	☐	☐	☐	☐	☐
8.	I am aware of safety requirements for my occupational area.	☐	☐	☐	☐	☐
9.	I use the recommended Personal Protective Equipment (PPE) during all practical sessions.	☐	☐	☐	☐	☐
10.	I have access to the occupational standards for the CVQ.	☐	☐	☐	☐	☐
11.	I have access to the curriculum for the CVQ.	☐	☐	☐	☐	☐
12.	I have access to learner guides for the CVQ .	☐	☐	☐	☐	☐

Curriculum

Please indicate the extent to which you agree or disagree with the following statements by ticking the appropriate box from Strongly Agree (1) to Strongly Disagree (5).

	Curriculum Delivery	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
13.	The number of periods allocated for the CVQ is sufficient.	☐	☐	☐	☐	☐
14.	The CVQ programme is dominated by theory.	☐	☐	☐	☐	☐
15.	The CVQ programme is dominated by practical.	☐	☐	☐	☐	☐

Curriculum Delivery		Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
16.	My teacher provides individual instruction when and where necessary.	☐	☐	☐	☐	☐
17.	I regularly work in teams to complete tasks.	☐	☐	☐	☐	☐
18.	I am aware of delivery plans.	☐	☐	☐	☐	☐
19.	I am very enthusiastic about completing tasks and projects.	☐	☐	☐	☐	☐
20.	I participate in industry work experience.	☐	☐	☐	☐	☐

21. Please indicate the delivery strategies used by your teacher in the classroom, tick all that apply.

- | | |
|--|--|
| ☐ Lecture | ☐ Small Group Discussion |
| ☐ Lecture Discussion | ☐ Case Studies |
| ☐ Brainstorming | ☐ Role Playing/Simulation |
| ☐ Videotapes | ☐ Field Trips |
| ☐ Class Discussion | ☐ Peer Tutoring/Coaching |
| ☐ Demonstration | |
| ☐ Other (please state): | |
-

Assessment

Please indicate the extent to which you agree or disagree with the following statements by ticking the appropriate box from Strongly Agree (1) to Strongly Disagree (5).

Assessment		Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
22.	My teacher plans for my assessment with me.	☐	☐	☐	☐	☐
23.	I have access to the approved occupational standard for the CVQ.	☐	☐	☐	☐	☐
24.	I look forward to feedback on assessments from teacher.	☐	☐	☐	☐	☐
25.	I use feedback provided on assessments to improve.	☐	☐	☐	☐	☐

Assessment		Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
26.	I manage and organise my portfolio.	☐	☐	☐	☐	☐
27.	I do self-assessments for every activity.	☐	☐	☐	☐	☐
Assessment		Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
28.	I assess my peers.	☐	☐	☐	☐	☐
29.	I have access to all of my assessment records.	☐	☐	☐	☐	☐
30.	I write reflections after each activity.	☐	☐	☐	☐	☐
31.	I am allowed to redo assessments whenever I do not meet the required standard.	☐	☐	☐	☐	☐
32.	I am familiar with the role of the internal verifier.	☐	☐	☐	☐	☐
33.	I am familiar with the role of the external verifier.	☐	☐	☐	☐	☐
34.	I am satisfied with the knowledge and experience gained in the CVQ programme.	☐	☐	☐	☐	☐

35. Please indicate the methods used by your teacher to assess you for the CVQ, tick all that apply.

- ☐ Oral Questioning/Presentations
- ☐ Written Testing
- ☐ Observation/Practical
- ☐ Demonstration
- ☐ Product Examination
- ☐ Portfolio Assessment
- ☐ Professional Discussion
- ☐ Project

APPENDIX F – Assessor/Teacher Questionnaire

Instructions

Dear Teacher:

Education researchers from the Faculty of Education of the University of the West Indies, at St. Augustine are conducting research on the implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools. You have been chosen to fill out a survey relating to curriculum delivery and assessment for the CVQ at your school. Read each item and select the best response by placing a tick ☒ in the corresponding box or write your responses in the space provided. **BE SURE TO ANSWER EVERY QUESTION. Your identity as well as your responses will remain confidential.**

Demographics

1. Sex:

☐ Male

☐ Female

2. Age:

☐ 20 & under

☐ 21 – 25

☐ 26 – 30

☐ 31 – 35

☐ 36 – 40

☐ 41 – 45

☐ 46 – 50

☐ 51 & up

3. What are your years of teaching experience?

☐ Under 5

☐ 06 – 10

☐ 11 – 15

☐ 16 – 20

☐ 21 – 25

☐ 26 – 30

☐ 31 – 35

☐ 36 – 40

☐ 41 & up

4. How long have you been a teacher at the school?

☐ Under 5 years

☐ 06 – 10 years

☐ 11 – 15 years

☐ 16 – 20 years

☐ 21 – 25 years

☐ 26 – 30 years

☐ 31 – 35 years

☐ 36 – 40 years

☐ 41 years & up

5. What is your level of qualification?

☐ Trained Teacher

☐

☐ Trained Teacher

☐ Untrained Teacher

☐ Trained Graduate Teacher

☐ Untrained Graduate Teacher

6. Do you have any formal training in TVET?

☐ Yes

☐ No (If “No”, please go to question 8)

7. If yes, at which level?

☐ Certificate

☐ Diploma

☐ Degree

8. If you have answered "Yes" to question 6, please specify what occupational areas you are trained in:

9. Do you have any formal training in Competency-based Education and Training?

☐ Yes

☐ No

10. If yes, at which level?

☐ Certificate

☐ Diploma

☐ Degree

11. Do you have any training in facilitating blended learning?

☐ Yes

☐ No

12. If yes, at which level?

☐ Certificate

☐ Diploma

☐ Degree

13. Have you attended an assessor training workshop?

☐ Yes

☐ No

14. Are you a certified assessor?

☐ Yes

☐ No

Teachers and their Students

15. What form do you teach?

☐ Four

☐ Five

16. What CVQ programme do you facilitate/teach?

17. How many students are in your class? _____

18. Are any of these students also getting ready for any CSEC Technical examinations?

☐ Yes

☐ No

19. If yes, how many and for which examinations?

20. How many class periods are allocated to teaching CVQ subjects? _____

21. Are these class periods sufficient?

☐ Yes

☐ No

Resources

22. Are consumables readily available for delivering instructions?

☐ Yes

☐ No

23. Does your lab/classroom have adequate facilities/equipment to satisfy the requirements of the standard?

☐ Yes

☐ No

24. Please state what type of ICT equipment (computers, video cameras, digital cameras) you have access to.

25. How often per week do you use the ICT equipment stated at #25?

26. Does your lab/classroom have adequate storage facilities for students' records?

☐ Yes

☐ No

Teacher's Resources

Please indicate the extent to which you agree or disagree with the following statements by ticking the appropriate box from Strongly Agree (1) to Strongly Disagree (5).

Resources		Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
27.	Laboratory/Workshop is sufficient for my occupational area.	☐	☐	☐	☐	☐
28.	Equipment commensurate with the number of students in my class.	☐	☐	☐	☐	☐
29.	Equipment is updated in my workshop to fit in with rapid developments in my occupational area.	☐	☐	☐	☐	☐
30.	My workshop satisfies all OSH requirements.	☐	☐	☐	☐	☐
31.	Equipment in my workshop are compatible with CVQ curriculum.	☐	☐	☐	☐	☐
32.	Occupational standards are available.	☐	☐	☐	☐	☐
33.	Curricula to support occupational standards are available.	☐	☐	☐	☐	☐
34.	Teachers' Guides for the occupational standards are available.	☐	☐	☐	☐	☐
35.	Learner Guides for the students are available.	☐	☐	☐	☐	☐
36.	Adequate supplementary teaching materials are available.	☐	☐	☐	☐	☐
37.	Recommendations from facility audits are implemented	☐	☐	☐	☐	☐
38.	Department budgets are prepared	☐	☐	☐	☐	☐

Teacher's Capacity

Please indicate the extent to which you agree or disagree with the following statements by ticking the appropriate box from Strongly Agree (1) to Strongly Disagree (5).

Capacity		Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
39.	I am familiar with the requirements and benefits of the CVQ.	☐	☐	☐	☐	☐
40.	I use modern teaching aids.	☐	☐	☐	☐	☐
41.	I guide students to work in teams.	☐	☐	☐	☐	☐
42.	I help students link what they have learned in theory and practice.	☐	☐	☐	☐	☐
43.	I am familiar with the scientific knowledge in my occupational area.	☐	☐	☐	☐	☐
44.	I am familiar with the practical knowledge in my occupational area.	☐	☐	☐	☐	☐

Curriculum Delivery

Please indicate the extent to which you agree or disagree with the following statements by ticking the appropriate box from Strongly Agree (1) to Strongly Disagree (5).

	Curriculum Delivery	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
45.	The basic theory curriculum overwhelms the study.	☐	☐	☐	☐	☐
46.	The course is dominated with theory.	☐	☐	☐	☐	☐
47.	The course is dominated with practical.	☐	☐	☐	☐	☐
48.	The curriculum is commensurate with the needs of the labour market.	☐	☐	☐	☐	☐
49.	The number of classes allocated for practical is sufficient.	☐	☐	☐	☐	☐
50.	Course material draws reference to what students learn in their everyday life situations	☐	☐	☐	☐	☐
51.	Current curriculum can assist students in gaining a future career.	☐	☐	☐	☐	☐
52.	I prepare Curriculum Delivery plans.	☐	☐	☐	☐	☐
53.	My Curriculum Delivery plans are shared with students.	☐	☐	☐	☐	☐
54.	Organisation and planning processes are in place for portfolio management.	☐	☐	☐	☐	☐
55.	Lesson plans are prepared and approved ahead of teaching.	☐	☐	☐	☐	☐
56.	A system is in place for monitoring student's portfolio development and completion.	☐	☐	☐	☐	☐
57.	My plans for instruction are individualised and self-paced.	☐	☐	☐	☐	☐
58.	I maintain a portfolio which includes industry based relevant and meaningful projects for each unit.	☐	☐	☐	☐	☐

59. Please indicate the delivery strategies that you use in the classroom, tick all that apply.

- | | |
|--|--|
| ☐ Lecture | ☐ Case Studies |
| ☐ Lecture Discussion | ☐ Role Playing/Simulation |
| ☐ Brainstorming | ☐ Field Trips |
| ☐ Videotapes | ☐ Peer Tutoring/Coaching |
| ☐ Class Discussion | |
| ☐ Practical Demonstration | |
| ☐ Small Group Discussion | |

☐ Other _____

Assessment

Please indicate the extent to which you agree or disagree with the following statements by ticking the appropriate box from Strongly Agree (1) to Strongly Disagree (5).

Assessment	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
60. ☐ Assessments are planned with students.	☐	☐	☐	☐	☐
61. Assessment plans are prepared.	☐	☐	☐	☐	☐
62. Assessment plans are shared with students.	☐	☐	☐	☐	☐
63. Assessments are conducted throughout the school term.	☐	☐	☐	☐	☐
64. Formative assessments are conducted.	☐	☐	☐	☐	☐
65. Formative assessments are recorded.	☐	☐	☐	☐	☐
66. Formative assessments records are used to confirm competence of students.	☐	☐	☐	☐	☐
67. Summative assessment records are used to improve students' performance.	☐	☐	☐	☐	☐
68. I am familiar with my role as an assessor.	☐	☐	☐	☐	☐
69. I am familiar with the role of the internal verifier.	☐	☐	☐	☐	☐
70. I am familiar with the role of the external verifier.	☐	☐	☐	☐	☐
71. I use feedback from internal verifiers to inform assessments	☐	☐	☐	☐	☐
72. I use feedback from external verifiers to inform assessments.	☐	☐	☐	☐	☐
73. Internal Verification is conducted frequently.	☐	☐	☐	☐	☐
74. Continuous and detailed feedback is given to students.	☐	☐	☐	☐	☐
75. I reassess my students until they meet the required standard.	☐	☐	☐	☐	☐

76. Please indicate the assessment methods you use for the CVQ, tick all that apply.

al Questioning/Presentations

☐ Written Testing

☐ Observation/Practical Demonstration

☐ Product Examination

☐ Portfolio Assessment

☐ Professional Discussion

☐ Expert Witness Testimony

☐ Project

☐ Written Reports

☐ Other _____

APPENDIX G – Internal Verifier/Head of Department questionnaire

Instructions

Dear Teacher:

Education researchers from the Faculty of Education of The University of the West Indies, at St. Augustine are conducting research on the implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools. You have been chosen to fill out a survey relating to the implementation of the CVQ at your school. Read each item and select the best response by placing a tick ☒ in the corresponding box or write your responses in the space provided. **BE SURE TO ANSWER EVERY QUESTION. Your identity as well as your responses will remain confidential.**

Demographics

1. Sex:

☐ Male ☐ Female

2. Age:

☐ 20 & under ☐ 21 – 25 ☐ 26 – 30 ☐ 31 – 35
☐ 36 – 40 ☐ 41 – 45 ☐ 46 – 50 ☐ 51 & up

3. What are your years of teaching experience?

☐ Under 5 ☐ 06 – 10 ☐ 11 – 15
☐ 16 – 20 ☐ 21 – 25 ☐ 26 – 30
☐ 31 – 35 ☐ 36 – 40 ☐ 41 & up

4. How long have you been a teacher at the school?

☐ Under 5 years ☐ 06 – 10 years ☐ 11 – 15 years
☐ 16 – 20 years ☐ 21 – 25 years ☐ 26 – 30 years
☐ 31 – 35 years ☐ 36 – 40 years ☐ 41 years & up

5. What is your level of qualification?

☐ Trained Teacher ☐ Untrained Teacher
☐ Trained Graduate Teacher ☐ Untrained Graduate Teacher

6. Do you have any formal training in TVET?

☐ Yes

☐ No (If "No", please go to question 9)

7. If yes, at which level?

☐ Certificate

☐ Diploma

☐ Degree

8. If you have answered "Yes" to question 6, please specify what occupational areas you are trained in:

9. Do you have any formal training in Competency-based Education and Training?

☐ Yes

☐ No

10. If yes, at which level?

☐ Certificate

☐ Diploma

☐ Degree

11. Do you have any training in facilitating blended learning?

☐ Yes

☐ No

12. If yes, at which level?

☐ Certificate

☐ Diploma

☐ Degree

13. Have you attended an internal verifier training workshop?

☐ Yes

☐ No

14. Are you a certified Internal Verifier?

☐ Yes

☐ No

Resources

Please indicate the extent to which you agree or disagree with the following statements by ticking the appropriate box from Strongly Agree (1) to Strongly Disagree (5).

	Resources	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
15.	Department budgets are prepared.	☐	☐	☐	☐	☐
16.	Department budgets are approved.	☐	☐	☐	☐	☐
17.	Requisition processes are in place and operational.	☐	☐	☐	☐	☐
18.	Inventory listing of equipment/materials and tools available.	☐	☐	☐	☐	☐

Internal Verifier Practice

Please indicate the extent to which you agree or disagree with the following statements by ticking the appropriate box from Strongly Agree (1) to Strongly Disagree (5).

	Internal Verifier Practice	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
19.	I facilitate meetings with assessors to discuss procedures, practices and issues.	☐	☐	☐	☐	☐
20.	I liaise with assessors to provide feedback and guidance on standards and assessment outcomes.	☐	☐	☐	☐	☐
21.	I provide new assessors with adequate induction, mentorship and support.	☐	☐	☐	☐	☐
22.	I conduct internal verification frequently.	☐	☐	☐	☐	☐
23.	A system is in place for monitoring student's portfolio development and completion.	☐	☐	☐	☐	☐
24.	I am familiar with the role of the External Verifier.	☐	☐	☐	☐	☐

APPENDIX H – Cronbach Alpha Reliability Data

```

RELIABILITY
  /VARIABLES=Q6 Q8 Q10 Q11 Q12 Q13 Q14 Q15 Q16 Q17 Q18 Q19 Q20 Q21 Q22 Q23 Q24
Q25 Q26 Q27 Q28 Q29
  Q30 Q31 Q32 Q33 Q34 Q35 Q36
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.

```

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	9	100.0
	Excluded ^a	0	.0
	Total	9	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.727	29

Item Statistics

	Mean	Std. Deviation	N
Q6	1.1111	.33333	9
Q8	1.1111	.33333	9
Q10	1.8889	.78174	9
Q11	1.6667	.70711	9
Q12	2.4444	.72648	9
Q13	2.2222	.97183	9
Q14	2.3333	1.00000	9
Q15	2.2222	1.09291	9
Q16	4.5556	1.01379	9
Q17	3.5556	1.23603	9
Q18	1.2222	.44096	9
Q19	1.2222	.44096	9
Q20	1.5556	.72648	9
Q21	2.6667	.70711	9
Q22	1.3333	.50000	9
Q23	1.7778	.66667	9
Q24	2.8889	1.05409	9
Q25	2.5556	.88192	9
Q26	1.4444	.72648	9
Q27	1.2222	.66667	9
Q28	2.2222	1.09291	9
Q29	2.5556	1.13039	9
Q30	2.2222	.97183	9
Q31	3.1111	1.16667	9
Q32	3.4444	1.33333	9
Q33	2.4444	1.01379	9
Q34	3.1111	1.26930	9
Q35	3.5556	.88192	9
Q36	1.8889	.92796	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q6	64.4444	81.278	-.518	.740
Q8	64.4444	81.278	-.518	.740
Q10	63.6667	71.750	.447	.708
Q11	63.8889	71.611	.515	.706
Q12	63.1111	74.611	.250	.720
Q13	63.3333	68.500	.549	.698
Q14	63.2222	65.194	.748	.681
Q15	63.3333	73.000	.219	.722
Q16	61.0000	80.250	-.165	.748
Q17	62.0000	73.250	.165	.728
Q18	64.3333	80.750	-.336	.740
Q19	64.3333	77.750	.043	.728
Q20	64.0000	78.500	-.058	.735
Q21	62.8889	80.111	-.184	.741
Q22	64.2222	73.944	.475	.713
Q23	63.7778	71.444	.567	.704
Q24	62.6667	70.250	.391	.709
Q25	63.0000	67.500	.690	.690
Q26	64.1111	70.611	.585	.702
Q27	64.3333	77.000	.071	.728
Q28	63.3333	68.250	.489	.700
Q29	63.0000	67.000	.540	.695
Q30	63.3333	67.750	.599	.694
Q31	62.4444	85.528	-.399	.770
Q32	62.1111	74.861	.071	.738
Q33	63.1111	65.111	.742	.681
Q34	62.4444	72.778	.180	.727
Q35	62.0000	80.500	-.190	.746
Q36	63.6667	66.500	.721	.686

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
65.5556	78.278	8.84747	29

APPENDIX I – UWI requested permissions



THE UNIVERSITY OF THE WEST INDIES

ST. AUGUSTINE, TRINIDAD AND TOBAGO, WEST INDIES

FACULTY OF HUMANITIES AND EDUCATION

SCHOOL OF EDUCATION

Telephone: (868) 662-2002 Ext. 2118/2319 Fax: (868) 662-6615 e-mail: headsoe@the.uwi.tt

7th March, 2017

Mrs. Huldah Balchan-Bissoo,
Research Officer 1,
Ministry of Education,
Educational Planning Division,
Chepstow House, #56 Frederick Street
PORT OF SPAIN.

Dear Mrs. Balchan-Bissoo,

Ms. Pauline Whiteman is currently enrolled in the **Doctor of Philosophy in Education** programme at the School of Education, The University of the West Indies, St. Augustine.

Ms. Whiteman is seeking permission to conduct research in schools in Trinidad and Tobago and her topic of research is **"The Implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools of selected CARICOM States."**

Please find enclosed her application form for permission to conduct research in schools.

Yours respectfully,

Susan Herbert, Ph.D.
Chair, Subcommittee for Graduate Studies and Research



THE UNIVERSITY OF THE WEST INDIES

ST. AUGUSTINE, TRINIDAD AND TOBAGO, WEST INDIES

FACULTY OF HUMANITIES AND EDUCATION

SCHOOL OF EDUCATION

Telephone: (868) 662-2002 Ext. 82118/82119 Fax: (868) 662-6615

e-mail: Head.SchoolofEducation@sta.uwi.edu

16th February, 2018

Mr. Dean-Roy Bernard,
Permanent Secretary,
Ministry of Education, Youth and Information,
Permanent Secretary's Secretariat,
2, National Heroes Circle,
Kingston 4,
JAMAICA, W.I.

Dear Mr. Bernard,

We wish to advise you that Ms. Pauline Whiteman is currently enrolled in the Ph.D. in Education programme at the School of Education, The University of the West Indies, St. Augustine Campus in Trinidad.

She is currently doing her research on "The implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools of selected CARICOM States."

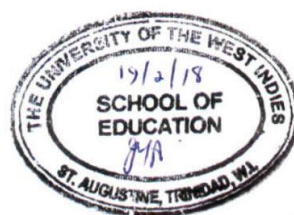
She is requesting permission from the Ministry of Education to conduct research in the following schools during her visit to Jamaica from 26th March to 29th March and then from 28th May to 8th June, 2018.

We wish to advise that while carrying out her research she will follow all the protocols necessary to ensure the confidentiality of the findings and to treat the subjects with respect. We look forward to the usual cooperation accorded to our graduate students by your Office.

1. Kingston Technical High
2. Holy Trinity High
3. Tarrant High
4. Fair Prospect High
5. Iona High School
6. Maldon High School
7. Belmont Academy

8. Maggotty High School
9. Ascott High School
10. Guy's Hill High School
11. Old Harbour High School
12. Vere Technical High School
13. Mount Alvernia High School
14. Dinthill Technical High School


Jennifer Yamin-Ali Ph.D.
Director





THE UNIVERSITY OF THE WEST INDIES

ST. AUGUSTINE, TRINIDAD AND TOBAGO, WEST INDIES

FACULTY OF HUMANITIES AND EDUCATION

SCHOOL OF EDUCATION

Telephone: (868) 662-2002 Ext. 2118/2319 Fax: (868) 662-6615 e-mail: headsoe@fhe.uwi.tt

31st May, 2017

Mrs. Melene Fontaine
Ag. Chief Education Officer,
Ministry of Education,
2nd Floor Government Headquarters,
Kennedy Avenue,
Rosseau,
COMMONWEALTH OF DOMINICA.

Dear Mrs. Fontaine,

We wish to advise you that Ms. Pauline Whiteman is currently enrolled in the Ph.D. in Education programme at the School of Education, The University of the West Indies, St. Augustine Campus in Trinidad.

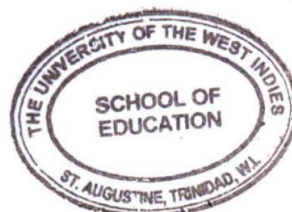
She is currently doing her research on "The implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools of selected CARICOM States."

She is requesting permission from the Ministry of Education to conduct research in the following schools during her visit to Dominica on June 26th and June 27th, 2017:-

1. Dominica Grammar School
2. Goodwill Secondary School
3. Northeast Comprehensive School

We wish to advise that while carrying out her research she will follow all the protocols necessary to ensure the confidentiality of the findings and to treat the subjects with respect. We look forward to the usual cooperation accorded to our graduate students by your Office.


Jennifer Yamin-Ali Ph.D.
Director





THE UNIVERSITY OF THE WEST INDIES

ST. AUGUSTINE, TRINIDAD AND TOBAGO, WEST INDIES

FACULTY OF HUMANITIES AND EDUCATION

SCHOOL OF EDUCATION

Telephone: (868) 662-2002 Ext. 2118/2319 Fax: (868) 662-6615 e-mail: headsoe@fhe.uwi.tt

4th August, 2017

Ms. Cheryl Ann Jones,
Permanent Secretary,
Ministry of Education, Youth, Sports and Culture,
Government Compound,
Grand Turk,
TURKS AND CAICOS ISLANDS.

Dear Ms. Jones,

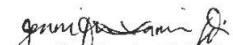
We wish to advise you that Ms. Pauline Whiteman is currently enrolled in the Ph.D. in Education programme at the School of Education, The University of the West Indies, St. Augustine Campus in Trinidad.

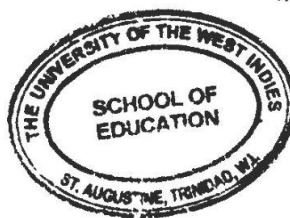
She is currently doing her research on "The implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools of selected CARICOM States."

She is requesting permission from the Ministry of Education, Youth, Sports and Culture to conduct research in the following schools during her visit to the Turks and Caicos Islands from October 16th to 20th, 2017:-

1. Clement Howell High
2. Raymond Gardiner High
3. Marjorie Basden High
4. Helene Jones Robinson High

We wish to advise that while carrying out her research she will follow all the protocols necessary to ensure the confidentiality of the findings and to treat the subjects with respect. We look forward to the usual cooperation accorded to our graduate students by your Office.


Jennifer Yamin-Ali Ph.D.
Director





THE UNIVERSITY OF THE WEST INDIES

ST. AUGUSTINE, TRINIDAD AND TOBAGO, WEST INDIES

FACULTY OF HUMANITIES AND EDUCATION

SCHOOL OF EDUCATION

Telephone: (868) 662-2002 Ext. 2118/2319 Fax: (868) 662-6615 e-mail: headsoe@fhe.uwi.tt

4th January, 2018

Ms. Karen Best
Chief Education Officer,
Ministry of Education, Science, Technology and Education,
Elsie Payne Complex,
Constitution Road,
St. Michael,
BARBADOS.

Dear Ms. Best,

We wish to advise you that Ms. Pauline Whiteman is currently enrolled in the Ph.D. in Education programme at the School of Education, The University of the West Indies, St. Augustine Campus in Trinidad.

She is currently doing her research on "The implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools of selected CARICOM States."

She is requesting permission from the Ministry of Education to conduct research in the following schools during her visit to Barbados from February 12th to February 23rd, 2018.

1. Coleridge & Parry School
2. Daryll Jordan Secondary School
3. Alleyne Secondary School
4. Seventh Day Adventist Secondary School
5. Deighton Griffith Secondary School
6. Queens College Secondary School
7. Grantley Adams Memorial School
8. Lester Vaughn Secondary School
9. Princess Margaret Secondary School
10. St. George Secondary School
11. The Lodge School

We wish to advise that while carrying out her research she will follow all the protocols necessary to ensure the confidentiality of the findings and to treat the subjects with respect. We look forward to the usual cooperation accorded to our graduate students by your Office.

A handwritten signature in black ink, appearing to read "Jennifer Yamin-Ali". The signature is fluid and cursive, with a distinct loop at the end.

Jennifer Yamin-Ali Ph.D.
Director



Government of the Republic of Trinidad and Tobago

MINISTRY OF EDUCATION

Educational Planning Division

Education Towers, No.5 St. Vincent Street, Port of Spain, Trinidad
1.868.622.2181 Ex. 2339

24th August 2017

The School Supervisor III
Victoria Education District Office
#16-22 Sutton Street
San Fernando

Dear Sir/Madam

This is to inform you that **Ms. Pauline Whiteman** has been granted permission to conduct research at San Fernando East and West Secondary Schools within your Educational District. The applicant is a student at the University of the West Indies, St. Augustine, pursuing a Doctor of Philosophy in Education. Her research is entitled "**The Implementation of the Caribbean Vocational Qualification (CVQ) in Secondary Schools of Selected CARICOM States**".

The applicant's research shall be conducted during this academic year 2017 continuing into 2018. In this regard, you are kindly asked to inform the Principals of the Schools within your District to expect **Ms. Whiteman**. Participation is voluntary, however the Principals' cooperation in assisting the researcher would be greatly appreciated.

Should you require additional information please contact Mrs. Huldah Balchan-Bissoo, Research Officer I, Educational Planning Division at 622-2181 ext. 2339 or email balchanh@gov.tt.

Yours Respectfully

.....
Mrs. Lisa Henry-David
Director (Ag.)
Educational Planning Division
Ministry of Education





CHIEF EDUCATION OFFICER

MINISTRY OF EDUCATION, SCIENCE, TECHNOLOGY AND INNOVATION



Fax: (246) 436-2411
Tel. No.: (246) 535-0609
Ref. No.: CH

ELSIE PAYNE COMPLEX
CONSTITUTION ROAD
ST. MICHAEL, BB11124

January 26, 2018

Jennifer Yamin-Ali Ph.D
Director
The University of West Indies
St. Augustine,
Trinidad & Tobago
Faculty of Humanities and Education
School of Education

Dear Madam

I acknowledge receipt of your letter dated January 4, 2018 seeking permission for Ms. Pauline Whiteman to conduct research in the following schools during her visit to Barbados from February 12 to February 23, 2018:

Coleridge & Parry School	Grantley Adams Memorial School
Daryll Jordan Secondary School	Lester Vaughan Secondary School
Deighton Griffith Secondary School	Princess Margaret Secondary School
Alleyne Secondary School	St. George Secondary School
Queen's College Secondary School	The Lodge School

This is to inform you that the Ministry of Education, Science, Technology and Innovation has given permission for Ms. Whiteman to do her research on "The implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools selected in Barbados.

Ms. Whiteman should contact the Principals of the Secondary Schools mentioned.

Yours faithfully

Karen Best (Mrs.)
Chief Education Officer



COMMONWEALTH OF DOMINICA
MINISTRY OF EDUCATION AND HUMAN RESOURCE DEVELOPMENT
EDUCATION DIVISION

Tel: (767) 266 5514
 Fax: (767) 448 1701
 E-mail: chiefeduoff@education.gov.dm
 Website: www.dominica.gov.dm

Education, Science and
 Technology Building
 Cornwall Street
 Roseau

June 07, 2017

Ms. Pauline Whiteman
 St Augustine
Trinidad and Tobago

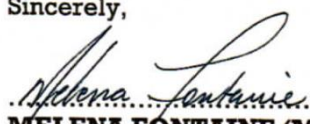
Dear Madam,

The letter from your school dated on May 31, 2017, seeking assistance with your research paper refers.

Permission is granted to seek assistance from the Principal and Staff of Dominica Grammar School, Goodwill Secondary School and North East Comprehensive School with your research project, which focuses on the implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools of selected CARICOM States.

Please ensure that you keep within the ethical guidelines as determined by your ethics committee. I wish you success in your studies.

Sincerely,



MELENA FONTAINE (MRS.)
CHIEF EDUCATION OFFICER (Ag.)

c.c Permanent Secretary/ Education and Human Resource Development
 Senior Education Officer - Secondary Schools

Ref. No.
In replying the above
Number and date of this
letter should be quoted.



**MINISTRY OF EDUCATION,
HUMAN RESOURCE DEVELOPMENT
AND THE ENVIRONMENT
BOTANICAL GARDENS,
TANTEEN, ST. GEORGE'S
GRENADA, W.I.**

March 16, 2017

Ms. Pauline Whiteman
School of Education
University of the West Indies
St. Augustine
Trinidad

Dear Ms. Whiteman

The Ministry of Education, Human Resource Development and The Environment acknowledges receipt of your correspondence dated March 7, 2017 requesting permission to conduct research in selected Secondary Schools.

The Ministry is pleased to advise that permission has been granted, and that the requisite arrangements will be made with the schools to facilitate your request.

Best wishes for the success of your research project.

Sincerely

Elvis Morain (Mr.)
CHIEF EDUCATION OFFICER

.../ra



MINISTRY OF EDUCATION,
YOUTH & INFORMATION

Reply or subsequent reference to this communication should be made to the Permanent Secretary and the following reference quoted:

2-4 National Heroes Circle
Kingston 4, Jamaica
Tel. 876-612-5840
Fax: 876-948-7755
www.moe.gov.jm

March 12, 2018

Ms. Pauline Whiteman
PhD Candidate
The University of the West Indies
St. Augustine
Trinidad and Tobago

Dear Ms. Whiteman:

Re: Permission to Conduct Research

This serves to acknowledge receipt of correspondence requesting permission for you to conduct a research project entitled "*The Implementation of the Caribbean Vocational Qualification (CVQ) in Secondary Schools of selected CARICOM States.*" The Ministry has approved this request on the condition that the administration of the selected schools is in agreement. Approval is also granted with the understanding that confidentiality and anonymity are maintained.

The Ministry will be notifying the administration of the institutions of its approval for the research to be conducted and henceforth you will be treating with the institution.

Kindly acquaint yourself with the guidelines for conducting research in the Ministry's institutions which can be found at www.moey.gov.jm under "Information Resources".

We would appreciate you forwarding a copy of the findings of this survey to the Ministry of Education, Youth and Information.

Sincerely,

.....
Vivienne Johnson (Mrs.)
Senior Director (Acting)
Planning and Development Division
for Permanent Secretary

COPY: Regional Director

APPENDIX J – Student consent forms from parents

From: Pauline Whiteman (Student)

ufs: Principal,

To: Parent

The Ministry of Education has given permission to Pauline Whiteman, a PhD student from the Faculty of Education of The University of the West Indies, at St. Augustine to conduct research on the implementation of the Caribbean Vocational Qualification (CVQ) in secondary schools. Your child has been chosen to fill out a survey and participate in a focus group session relating to the implementation of the CVQ at his/her school. If you give consent for your child to participate, the identity of your child as well as his/her responses will remain confidential. Participation is entirely voluntary and you are free to refuse to provide consent. If you have further questions, you can contact the student at pauline.whiteman@my.uwi.edu.

I agree for my childto participate in this study.

Signature of parent or guardian:

Date: