

# Responding To The Need for Resource Materials Through Distance Education: In Pursuit of a Collaborative Model

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## **Abstract**

This paper reports on a project undertaken jointly by the Caribbean Examinations Council (CXC) and the Commonwealth of Learning (COL) to develop self-study and distance learning materials in selected subjects for the Caribbean Advanced Proficiency Examinations (CAPE) and, to a lesser extent, the Caribbean Secondary Education Certificate (CSEC) examinations offered by CXC. The paper describes the collaborative and iterative process that produced materials that are highly responsive to the needs of both a population in full-time attendance at secondary schools and more mature out-of-school learners in member-countries of CXC. In developing the materials, the general principles followed by COL in developing distance materials were combined with the experience of CXC in developing syllabuses and related materials to serve the needs of its 16 member-countries taking CSEC and CAPE. The paper calls attention to how the approach that was used responded to the special circumstances of having the same materials satisfy the needs and circumstances of several countries with varying levels of resources and student performance. The paper suggests that the model may be applicable to countries or regions that have to treat with similar circumstances in seeking to increase access to both secondary and tertiary education.

## **INTRODUCTION**

As Examination Boards globally become increasingly engaged in a wide range of teaching and learning activities to compliment their traditional role of setting and administering examinations (Maughan et al, 2006), the Caribbean Examinations Council (CXC) has responded to the need to provide educational materials through the distance educational medium. Earlier development of distance material focused primarily on offsetting the barriers of access and mobility that have been a deterrent to education in many parts of the developing world. Access and mobility were the primary reasons that led CXC into developing distance material.

The effort to develop distance learning materials by the Council coincided with the introduction of the Caribbean Advanced Proficiency Examinations in 1998. CAPE was introduced to provide further educational opportunities for a wider cross-section of post-secondary students than the traditional Advanced Level examinations. The target group included potential students from those territories, such as Guyana, Belize, Jamaica and Trinidad and Tobago. The topography in some parts of these countries makes communication not easily accessible, and the rural-urban dichotomy excluded many persons from education (Irvine, 2003). The introduction of CAPE was intended to achieve a 15% enrollment of the post-secondary age cohort in tertiary education by the year 2005 (Seventeenth Meeting of the Heads of Government Conference, 1997). By 2001, the average enrolment at the tertiary level in the Caribbean was nine percent (World Bank, 2001).

The development of resource materials for Distance Education was seen as the most appropriate way to reach an increased number of students in the 16 Participating territories with varying levels of human and material resources, different levels of performance amongst schools, teachers and territories, and a topography that often denied access of certain groups of people to the multiplicity of Tertiary Learning Institutions (TLI's) offering different types of certification including Associate Degrees, Diplomas, Certificates and Professional programmes.

The Caribbean Advanced Proficiency Examinations (CAPE) offered new challenges for stakeholders who had traditionally focused on the Advanced Level examinations. CAPE was criterion-referenced and the existing resources were considered inadequate for the coverage required. Furthermore, the syllabuses were Caribbean in orientation and a sizeable portion of its Content and suggested Pedagogy was absent in the available resource materials (Griffith 2001).

## **COLLABORATION**

Collaboration may be defined as the pooling together of resources and efforts through strategies, which promote efficiency and meet institutional goals (Adekanmbi, Mphinyane and Kamau (1996). According to Adekanmbi (1999) collaboration

exists at the national, regional and international levels and its models include direct intervention, consultancy, shared resources, shared market and the associational models. Collaboration has been a feature of the Caribbean Examinations Council from its inception. The Caribbean Examinations Council (CXC) was established in 1972 and given the mandate to conduct such examinations as it may think appropriate and award certificates and diplomas on the results of examinations so conducted. The Council is governed by a Committee consisting of representatives of its 16 Participating territories. The territories are Antigua and Barbuda, Barbados, Belize, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, St Kitts and Nevis, St Vincent and the Grenadines, Trinidad and Tobago and the Turks and Caicos Islands.

CXC depends heavily on the services of a large number of specialists and resource persons drawn from the teaching profession, regional universities, the Ministries of Education, Teacher Training Colleges and Commerce and Industry. The Council is an Associate Institute of the Caribbean Economic Community (CARICOM) and both CARICOM and the Organization of Eastern Caribbean States (OECS) have observer status on the Council. Collaborative effort is required at every level of operations, including the structure and functions of Council, and the iterative processes employed in developing subject Panels, syllabuses, examinations and in disseminating information and in the marking and administering of examinations. The process is well documented by Stephens in the article *Formative Approaches to Constructing Syllabuses for the Caribbean Advanced Proficiency Examinations* (Stephens, 2004).

Further to collaborating with its members, CXC has in the past, pooled its resources with external agencies in developing programmes and resource materials. The CXC/CIDA project in the 1990's developed modules for Science subjects and the development of CAPE was a collaborative effort between the European Commission and CXC. The collaboration between CXC and the Commonwealth of Learning (COL), therefore, was one of a series of collaborative efforts between CXC and external agencies.

### **THE CXC/COL COLLABORATIVE PROJECT**

In developing the Distance Learning materials, CXC benefited from assistance provided by the Commonwealth of Learning (COL). In September 2001, an agreement was signed between the Council and the Commonwealth of Learning which stated that COL would assist the Council in developing flexible study materials that would focus on both in-school and out-of-school students. The materials would include teacher/tutor materials and training would be provided for course writers and tutors involved in the delivery of the ODL programme. CXC obtained a copyright agreement with COL that would permit the Council full rights to replicate and distribute the materials without any constraints, while COL would be able to use the materials for future training activities elsewhere (SUBSEC REP/ NOV. 2001/078/paras 150-153). Community Colleges were to be targeted for implementation of the programme as an outreach school/adult extension offering. It was further agreed that the project would focus on seven CAPE subjects based on scarcity of existing materials and on the extent of candidate entries for the subject. The COL also agreed to train members of the CXC staff to function as mentors to the course writers.

### **TRAINING OF CXC STAFF MEMBERS**

In November 2001, COL provided a training workshop in developing distance learning materials at its Headquarters in Vancouver for six members of CXC's staff, four from the Syllabus Unit and two from the Measurement and Evaluation Division. The workshop focussed on:

- i. sensitizing the CXC team to the methodologies of flexible and distance learning;
- ii. equipping the CXC team with the instructional design skills needed for their role as mentors in supporting course writers; and
- iii. sensitizing the team to the issues surrounding the recruitment, training and quality control of ODL course writers.

The staff members trained by COL subsequently served as mentors in assisting writers in the Caribbean to develop distance learning materials for eleven CXC subjects. The eleven subjects chosen for the project comprised four Caribbean Secondary School Certificate (CSEC) and seven CAPE subjects. Those for CSEC were for English A, Principles of Business, Social Studies and Mathematics and those for CAPE were Accounting, Caribbean Studies, Communication Studies, Computer Science, Information Technology, Law and Management of Business.

### **SELECTION OF WRITERS**

The writers of the Self Study and Distance Learning Guides were drawn from among competent subject specialists in the region who had previously served the Council as members of CXC subject Panels, as CXC Examiners or as CXC Resource Persons. The writers were substantively based in several institutions in the Region. These included, the University of the

West Indies, Cave Hill and St Augustine campuses, Barbados Community College, Sir Arthur Lewis Community College (St Lucia), Ministry of Finance (Jamaica), Core Curriculum Unit of the Ministry of Education (Jamaica), Valsyn Teachers' College (Trinidad and Tobago), St Vincent and the Grenadines Community College, Portmore Community College (Jamaica), two secondary schools in Barbados and three in Jamaica. The selection of writers from different institutions and different territories involved collaboration not only at the territorial level but also at the institutional level and this reflected a wide cross section of the educational stakeholders in the Region.

## WRITERS' WORKSHOPS

With assistance from the Commonwealth of Learning, the writers were contracted and trained in two regional workshops, one in Jamaica in March 2002 and another in Barbados in June 2002. They then worked under the guidance of CXC staff, particularly from the CXC Western Zone Office in Jamaica in developing the materials.

At the first workshop, writers, with guidance of the CXC staff members, began to develop the first draft of the Study Guide in their particular subjects. CXC staff members, who were trained by the COL, reviewed the initial submissions of the writers. The CXC staff developed a checklist against which they reviewed the initial submissions and which was edited by the COL consultant before sending to the writers. His review provided feedback useful both to CXC staff serving as mentors and to the writers. The checklist attempted to capture the main areas of quality distance education materials. The following checklist represents a sample of the type of data that contributed to the iterative and collaborative process employed among the COL consultant, CXC staff and the writers in the development of the materials.

### Subject: CAPE SOCIOLOGY Writer:

Item	Criteria	Comments
End Test	<ol style="list-style-type: none"> <li>1. Do they cover all the key issues in the unit of work?</li> <li>2. Are the questions clear and unambiguous?</li> <li>3. Is there feedback on the answers?</li> </ol>	<p>Yes. The end tests cover all the key issues in the unit of work.</p> <p>The questions are clear and unambiguous.</p> <p>There is adequate feedback on the answers.</p>
Objectives or Learning outcomes	<ol style="list-style-type: none"> <li>1. Do they match what the end-test tests?</li> <li>2. Are they properly worded and go from simple to difficult?</li> </ol>	<p>Not all the learning outcomes match the end test. For instance, the concept of Sociology as a science is a key issue in Study Guide 1, but it is not in the end test. The writer should refer to the outcomes/objectives when developing the end test to ensure that all important concepts are tested. The end tests are properly worded but lack variety. The writer may examine Papers 1 and 2 of the CAPE examination to get some ideas.</p>
Topic sections	<ol style="list-style-type: none"> <li>1. Do the sections of the topic match the learning outcomes and the end test?</li> <li>2. Are the topics properly sequenced?</li> </ol>	<p>There is no problem with the sections and the sequencing.</p>
Examples	<ol style="list-style-type: none"> <li>1. Are there enough?</li> <li>2. Are they adequate?</li> </ol>	<p>The examples are excellent, especially when presented in tables and charts. However, there is need for more concretization of concepts by giving real-life examples, especially in Section 2, Sociological Theory.</p>
Activities	<ol style="list-style-type: none"> <li>1. Are there enough?</li> <li>2. Is there enough feedback?</li> </ol>	<p>There is a major problem with activities and feedback. The author should consider that in Self-Study material, a student cannot be asked to respond to questions for which the information has not as yet been provided. In almost all situations, what is called feedback is appropriately text and the activities should follow, not precede, the details of what is asked. For example, Activity 1.1 asks what is sociology even before the student is</p>

		informed (the information is in the feedback). The five questions asked in the activities should be answered, one by one, as feedback.
Text	<ol style="list-style-type: none"> <li>1. Is it enough to allow learners to do the activities?</li> <li>2. Is the language and style user-friendly?</li> <li>3. Are there opportunities to integrate previous knowledge?</li> </ol>	<p>Very adequate as long as the current feedback is transformed into text.</p> <p>The language and style are user-friendly, sometimes too much so, as exemplified at times in somewhat simplistic questions, such as, what do we need to learn to be members of the society? or those questions that begin with Do you think that?</p> <p>There are adequate opportunities to integrate previous knowledge.</p>

At the second workshop, the COL consultant and the CXC mentors reviewed the progress of the writers and assisted them in resolving problems encountered. Under the guidance of the CXC mentors, each writer developed a schedule containing the number and names of the additional pieces of materials that will be developed, the sub-sections that each piece will contain and the schedule for delivery for each piece. The schedule was later incorporated, by amendment, into the existing contracts. At this second workshop, writers also started work on the development of Teachers' and Students' Guides that would accompany the materials.

Subsequent to the second writers' workshop, and using teleconference facilities, the Registrar, the Pro-Registrar, the CEO of COL and the COL Project Officer assigned to Project, COL and CXC discussed arrangements for completing the Project, including editing of the materials, completion of graphics, typesetting, printing, marketing and sale of materials. COL agreed to review its budget to determine what additional assistance it may be able to offer CXC in undertaking these activities.

Further, the COL Project Officer and the Registrar met with institutions that are potential users of the materials in Barbados, Grenada, Guyana, Jamaica and Trinidad and Tobago, and also discussed the Project, by teleconference, with the Principal of the Community College in St Kitts and Nevis. The Registrar also informed CARICOM Ministers responsible for Education about the project at a Special Meeting of the Ministers held in Barbados in July 2002.

### WORKSHOPS FOR COMMUNITY COLLEGES' ADMINISTRATORS

COL provided assistance in the form of workshops to train Administrators in the management of distance learning programmes, since these institutions were expected to use the materials as part of outreach activities. Workshops were held February 12-14, 2003 and February 17-19, 2003, for Community College Administrators in Jamaica and Grenada, respectively. In Jamaica, six Community Colleges, the Pre-University Centre at the University of the West Indies, Mona campus and two rural High Schools that provide services as outreach centres, participated in the workshop. A follow-up workshop was held in June 2003 for 40 tutors from the same institutions to train them in the delivery of distance learning programmes using the materials that were being developed by CXC. In Grenada, participants were primarily from the Community College and the Ministry of Education.

### FORMAT OF THE STUDY GUIDES

Each Study Guide is divided into eight sections and provides the user with an explanation of the sections, as indicated below.

1. Introduction	This places what you are about to study in the context of your everyday life and relates it to what you have done in previous Study Guides.
2. Content	This lists the topics that are to be covered in the Study Guide.
3. Objectives	These help you to identify the specific knowledge and skills that you should have acquired by the end of the Study Guide. .
4. Activities	Instructions are provided at the start of each activity. Read all instructions carefully before you attempt the activity. Some activities require you to think about something before you read any further. The thinking activity is designed to help you focus your thoughts in the directions

	which will facilitate your ability to complete the activities that follow.
5. Feedback	Each activity has a feedback section. If you have not completed the activity successfully, you should re-read the examples or information carefully.
6. Examples	These are meant to guide you to an understanding of the concept being taught. All examples should be read carefully before you attempt activities that follow.
7. End Test	This comes at the end of each Study Guide and is designed to ensure that you have acquired the knowledge and skills identified in the objectives. There is a feedback section following the End Test which allows you to measure the accuracy of your answers. If there are questions in the End Test that you have not answered satisfactorily, ensure that you return to the relevant section of the Study Guide and review those areas until you are satisfied that you have understood the concept.
8. Key Points	These summarise important concepts that you need to remember and pay special attention to in the future.

## EVALUATION

So far, approximately 2000 copies of each Study-Guide have been sold to students and teachers in 16 Participating Territories. In an effort to obtain feedback on whether the Study Guides were having the desired effects in schools, copies of a questionnaire were distributed to a sample of eight territories that offered the majority of candidates for CAPE Examinations. These territories are Antigua and Barbuda, Barbados, Belize, Guyana, Jamaica, St Kitts and Nevis, St Vincent and the Grenadines and Trinidad and Tobago. Completed questionnaires were received from 64 teachers, who responded to questions on five CAPE subjects, namely, Accounting, Caribbean Studies, Communication Studies, Management of Business and Law. The questionnaire sought to obtain information from practising teachers on aspects of the Study Guides including the ways in which they were being used, the extent of syllabus coverage, the adequacy of its structure and pedagogy, and their general usefulness in preparing students for examinations.

An analysis of the responses showed that 52 teachers (81%) indicated that the Self-Study materials were being used as supplementary resource materials in the classroom, while eight teachers (13%) used them as class texts. The remaining four teachers responded that the Study Guides were being used as distance materials. All teachers surveyed indicated that the Study Guides covered more than 90% of the syllabus and agreed that the language and methodology were adequate, learner-centred and student friendly. Thirty teachers (47%) were of the view that more activities should be included, and 48 teachers (75%) indicated that the Study Guides were useful in preparing students for CAPE examinations.

## CONCLUSION

This Paper examined an approach used by CXC to develop resource materials to serve the needs of 16 Participating territories taking CSEC and CAPE examinations. The approach combined the iterative and collaborative processes used by CXC in developing syllabuses and examinations with principles followed by COL in producing distance education materials. The knowledge, skills and experiences acquired have been useful in building capacity since writers who participated in the project are continuing to produce their own materials. In addition, CXC continues to train new writers in developing additional materials for seven subjects. Further work needs to be done to determine the performance changes in the subjects for which materials have been developed.

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