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## **246: USING CONTINUOUS ASSESSMENT AND READING AND WRITING ACTIVITIES TO IMPROVE LITERACY**

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The Caribbean Primary Exit Assessment (CPEA) is an assessment of the core literacies required by all pupils exiting the primary school system. These literacies are deemed critical for pupils to optimise achievement at the next level of education.

Unlike other exit assessment at this level in the Caribbean, a critical aspect of the CPEA methodology is a continuous assessment component that supports pupils' active participation in the CPEA activities, involvement of parents in the learning process and a strong feedback system from teachers.

The paper reports on the findings of a project conducted in four primary schools in a Caribbean territory. Teachers in participating schools utilised the teaching learning methodology purported in the CPEA with a view to increase the language literacy of pupils, especially, poor performing pupils.

Teachers and school administrators from participating schools were invited to a four-day residential workshop. Following this workshop, an officer was assigned to each school to provide teachers with additional support in the implementation of the CPEA Programme. Officers typically conduct at least two site visits per term.

The data show that for all CPEA participating schools, there was a reduction in the non-mastery rate in the Grade Four Literacy Test. The lowest reduction of three per cent was observed in the school where the CPEA programme was not systematically implemented. Additionally, it was evident that in schools where the Book Reports and Writing Portfolios; activities designed specifically to improve language literacies, were emphasized, the reduction in the percentage of non-mastery and the increase in percentage of mastery was greater.

The use of Book Reports, Writing Portfolios, Journals and other associated activities appear to be contributing factors in number of pupils demonstrating literacy at the Grade Four level.

**Keywords:** continuous assessment, assessment for learning, improving literacy

## Introduction

Most teachers who teach in Caribbean primary schools firmly believe that testing pupils is a basic condition for effective learning. Under this belief, teachers pay much attention to their pupils' summative performance on the Grade Four Literary Test. Parents also become anxious about their children's performance and pupils' emotional well-being and test scores ebb and flow haphazardly.

Based on pupils' performance on the Grade Four Literary Test, CXC collaborated with the Ministry of Education, Jamaica to set up a research project which can exploit the concerns of the teachers and parents and pupils and go beyond testing; thereby, helping teachers understand how learners in primary schools grow and develop and so become able to construct a classroom culture where teachers, learners and their parents participate in planning, monitoring and evaluating teaching-learning-assessment,

Essentially, the project required the selection and cooperation of four primary schools with underperforming pupils. These schools would utilize the teaching-learning-assessment methodology as explicated in CPEA documents with a view to increasing the performance of all pupils, especially low performing pupils.

The schools included in the project are

1. School A
2. School B
3. School C
4. School D

The teaching-learning-assessment methodology of CPEA may be tersely described using three large statements:

1. Project-based learning in primary schools enables primary pupils to develop, formatively and holistically, into critical thinkers, competent problem solvers and effective communicators who possess good interpersonal and intrapersonal skills.
2. The thinking that undergirds the design, implementation, and multifaceted benefits of the CPEA model, requires the cooperative and complementary activities of pupil, teacher, parent and community.
3. Learners need to understand the criteria used to judge what they learn and how they learn; teachers need a clear grasp of the process and product of learning among primary pupils; and these understandings by both learner and teacher are shared and negotiated through assessment and its dynamic feedback mechanisms.

The main activities that marked the setting up of the project:

1. All teachers and school administrators of the four participating schools were invited to a four-day workshop held in May 2012. At this workshop, the participants studied and discussed the CPEA Model and its underlying ideology. In particular, the participants received hands-on experience in constructing assessment tools, devising alternate teaching methods, marking pupils' exercises, writing useful feedback, etc.

2. Each of the four schools was assigned a CXC curriculum specialist who visited on site and provided teachers with additional support in implementing, developing and evaluating the CPEA programme.
3. Syllabus and Curriculum Development officers worked closely not only with the teacher but also with the pupils and their parents to ensure that the activities specified under the CPEA model are conducted in ways consistent with the tenets of the programme. Each curriculum officer made at least two on site visits per term.
4. Written materials produced under the CPEA model were distributed among teachers, pupils and parents of all four schools. These materials included; *Twenty-five ways of how pupils show what they learn, Constructing Pupils Test, Project-Based Learning, Measuring Can-Do Skills; Writing Portfolios.*

#### **The nature of the independent variables used in each of the four project schools**

CXC did not intend that each of the four participating schools would introduce the CPEA programme in its entirety. What was expected was that each school and its teachers would seek to embrace some aspects of the programme that fit easily within the motivation and expertise of the teachers, the human and material resources of the school, its geographical location, and the support of anxious parents eager to escape self-constructed barriers to their children's development.

Certain assessment strategies are marked features of the CPEA programme, namely:

Can-do-skills tests; Book report (oral/written, variety of presentation modalities); Writing Portfolios; Projects (small group/class); Pupil constructed tests (constructed by pupils); Teacher constructed tests (prepared by a single teacher/a group of teachers from one school/teachers from two or more schools).

Certain curriculum and pedagogical strategies are also marked features of the CPEA programme, namely;

Working in groups of 2s and 3s; working independently; using song, dance, drama, graphs, etc. to present materials; exercising pupil leadership; involving parents in projects; using resource persons from the community; reading materials selected by pupil/teacher/school working on authentic tasks in school, home, community; Using feedback generated by teacher/pupil/peer practising metacognitive skills (goal setting, planning, monitoring, reflect, measuring, reviewing).

At any of the four schools, the independent variables selected and manipulated by the teacher (under the guidance and support of CXC) may be any subset of assessment and curriculum strategies listed above as the salient features of the CPEA programme.

Thus, School D elected to use Writing Portfolios, Book Reports and Projects as the independent variables of interest, to be manipulated by all teachers and pupils in all grades; and School C selected the entire school and used as independent variables the majority of the CPEA programme.

Table I below presents the major variables of interest selected and manipulate by each of the four schools. These variables are best described as the independent variable in the research design used in this project.

**Table 1: Independent Variables as selected by each of four primary schools**

Schools	Variable manipulated	
School A	ASTEP classes Grades 1-3, 5, 6	Main CPEA activity – Projects
School B	School wide: Grades 1 to 6	Emphasis on Class Projects
School C	School wide: Grades 1 to 5	Emphasis on Book Reports; Writing Portfolios; Keeping Journals; Group Projects; Pupil constructed Tests
School D	School wide: Grades 1- 6	Emphasis on Book Reports; Writing and speaking presentations of report; Developing language literacies

A more complete definition of the independent variables manipulated within each school by their teachers, the pupil and their parents has been constructed by the CXC curriculum specialist throughout the 2011-2012 school years. These definitions are essentially the records of the CPEA checklists compiled by CXC site visits.

#### **School A**

At School A, the implementation of the CPEA methodology was not done systematically and evenly. Some teachers implemented certain activities, particularly project activities for an entire class. However, these project activities were not conducted orderly so as to address the needs of each individual pupil. It is important to note that teachers of the Alternate Secondary Transition Education Programme (ASTEP) classes stated their dominant teaching methods bore close resemblance to the CPEA methodology. The Grade 4 teacher did not fully embrace the CPEA programme.

#### **School B**

The CPEA methodology was being implemented by all teachers in all grades at the School B. Additionally, the principal at this school has taken a keen interest in the programme and has succeeded in getting both teachers and pupils motivated to participate in the CPEA activities and has designed strategies to increase parental involvement in the teaching-learning challenges of the school; there is also a strong focus on projects, working in groups to plan, conduct and report.

#### **School C**

There is school wide implementation of the CPEA methodology. All teachers at all grades make use of some aspects of the CPEA methodology. Teachers reported that pupils were involved in Projects, Writing Portfolios, Book Reports – activities which are directly associated with the language literacies. It should be noted however that there was minimal implementation of the CPEA activities by the Grade 6 teacher at this school.

## **School D**

Like School B, there is a school wide implementation of the CPEA methodology at School D. All teachers in all grades are implementing CPEA activities. However, there is a particular emphasis at this school on the Book reports and Writing Portfolios. While the Projects supported an integrated approach to the development of a variety of literacies, the Book report and Writing Portfolios activities were designed specifically for the development of language literacies.

## **Findings**

The main findings of the project are based on (a) qualitative analyses where data were obtained through direct observations of classrooms in action, conducting interviews with teachers, pupils and parents and holding discussions among the CXC curriculum specialists who worked with the four schools; and (b) quantitative analyses where empirical data were obtained from the schools' performance as measured by pupils' test scores on the Grade Four Literacy Test in 2011 to 2012 and 2012 to 2013 academic years.

## **Qualitative Analysis**

Using qualitative analyses, the main findings of this project may be stated as follows:

1. Teachers reported that implementing of the CPEA programme has significantly affected the ways pupils approach learning.

Specifically, they observed and reported

- i. increased interest in and motivation to engage CPEA activities by pupils;
  - ii. increase in collaboration among pupils at all levels. Pupils work in groups to complete their projects which are presented using multiple modalities;
  - iii. cooperative engagement in writing as pupils strive to complete their Writing Portfolios;
  - iv. evidence of improved reading and interest in speaking publicly;
  - v. many pupils who were not reading at their expected grade or age levels, were able to articulate clearly the importance of the class project and the approach they would take to planning, conducted and assessing that project;
  - vi. improvements in speaking and writing standard English through oral and written presentations of their Book Reports;
  - vii. improvements in performance of weaker pupils through interaction with group activities;
  - viii. eagerness of pupils to talk about their projects and the books they personally selected and read; and,
  - ix. on the whole, the motivational levels of most pupils were high and these pupils tended to be better able to express themselves.
2. A key component of the CPEA methodology is involving parent meaningfully in the teaching-learning-assessment process. At both School D and School B, town hall/street side meetings to engage parents were organised. At School A and School C, there was a drive to increase parents' attendance at Parent Teachers Association meetings. One principal, of these schools marvelled at the size of the attendance and

the deep interest expressed by parents. Some principals remarked that, prior to the implementation of the CPEA; they had been trying, without success, to get parents become involved in the educational development of these children.

Both School D and School B have organised programmes where parents are engaged in reading activities with their children. At School C, the principal and staff are still encountering difficulties to include parents in the activities of the school. Despite this challenge, the Grade 1 teacher reported that approximately 50% of the pupils received assistance from their parents in completing their projects.

### Quantitative Analysis

**Table 2: Pupil performance on Grade-Four Literacy Tests for 4 schools for 2011 and 2012**

School	2011			2012		
	% Mastery	% Almost Mastery	% Non-Mastery	% Mastery	% Almost Mastery	% Non-Mastery
School A	35	30	35	32	36	32
School B	30	25	45	10	52	38
School C	33	29	38	52	29	19
School D	25	42	33	53	30	17

The data contained in Table 2 have been compressed by collapsing columns 1 and 2, the “mastery” and the “almost mastery”, in order to produce a clear shape of the pupil performance (Table 3).

**Table 3: Pupil performance on Grade-Four Literacy Tests At Mastery and Non- Mastery for 4 schools for 2011 and 2012**

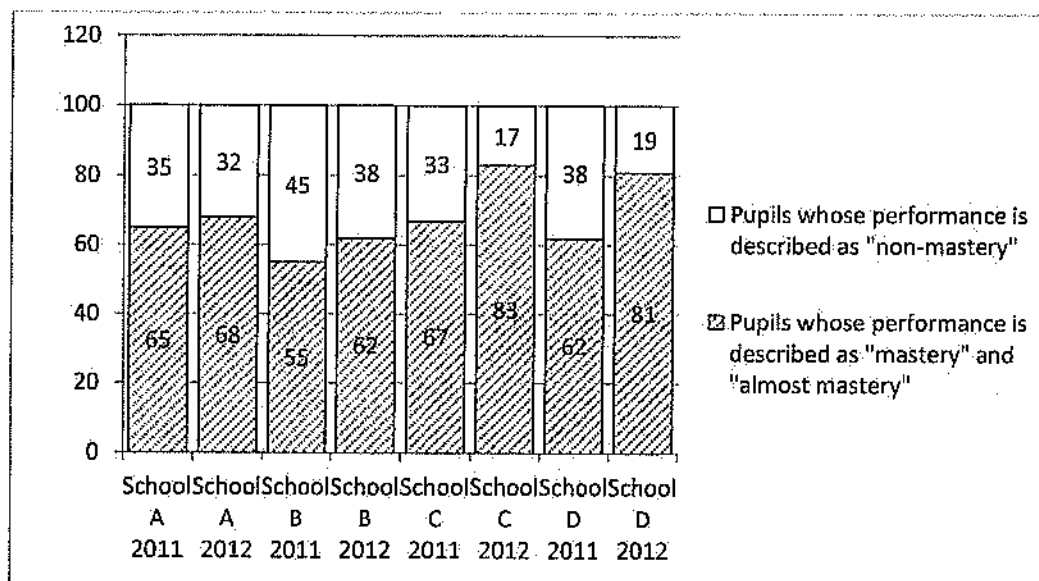
	School A		School B		School C		School D	
	M	NM	M	NM	M	NM	M	NM
2011	65	35	55	45	62	38	67	33
2012	68	32	62	38	81	19	83	17
	(A)		(B)		(C)		(D)	

M = Mastery and Almost Mastery, NM = Non-mastery

The data presented in Table 3C and 3D show that there are large changes in pupil performance from 2011 to 2012 at School C and School D.

Another useful way to present the data of pupil performance for years 2011 and 2012 is through bar graphs (Figure 1 below).

**Figure 1: Pupil Performance on Grade 4 Literacy Test at 4 schools for years 2011 and 2012**



The data and analyses presented in Tables 2, and 3 and Figure 1 clearly support the following statement and comments:

1. In all four schools, pupil performance on the Grade Four Literacy Tests in 2012 showed improvements over 2011.
2.
  - (a) in two of the four schools, School C and School D, the improved performance in 2012 over the previous year 2011 seemed to be statistically significant;
  - (b) in these two schools, the per cent of pupils performing at the Mastery was above 50%; and,
  - (c) the per cent of pupils described as “non-masters” was reduced in the 2012 Test to a low quantity below 20% for each of these two schools.
3. When pupils’ performance for 2012 as shown in Tables 2, 3 and Figure 1 was matched with the independent variables defined in Table 1 for each school and manipulated by the teachers, there was an unambiguous positive relationship between the level and age of implementation of the CPEA model and the quality of the pupil performance.
4. The distributions of the pupil performance for these two schools were highly - negatively skewed; and this phenomena contrasted sharply with the distribution associated with School A and School B which were distinctly unimodal and somewhat flat.

## Summary

Four schools whose performance on Grade Four Literacy Tests in 2011 was weak participated in a project designed to improve the teaching-learning activities conducted within their classrooms.

A research project, under the guidance of CXC, was set up within each of the four schools. The main hypothesis of each project was implicitly stated as follows:

CPEA, a programme designed by CXC and implemented in primary schools, in some Caribbean countries, contained many innovative features in teaching, learning and assessment. CPEA is founded on principles that situate the growth and development of each child within a community of teachers, learners and parents and assign to the learners' dynamic leadership roles in their own intellectual development.

Many of these innovative features used singly or as a whole programme seem to have the potential to raise significantly the performance of schools, especially the performance of the weakest pupils in a class.

In setting up the research project in each school, CXC encouraged each school to make use of the CPEA model as a whole. However, each school and its teachers were allowed to make use of the CPEA components of interest to them during 2012-2013 academic year.

Thus each school selected, so to speak, its own independent variable which was manipulated by the teacher. For School B, the independent variable was "Project work." The main hypothesis that guided the teaching-learning-assessment activities read as follows:

Pupils who participated in cooperatively planning, conducting and recording Project work as defined under the CPEA model, would obtain (on the 2012 Grade Four Literacy Tests) test scores which have

- (a) significantly different distributions than scores obtained on the 2011 Grade Four Literacy Tests
- (b) highly-negatively skewed distributions
- (c) distributions where relatively very few persons are defined as 'non-masters'.

## Conclusion

The data show that for all CPEA participating schools, there was a reduction in the non-mastery rate in the Grade Four Literacy Test. The lowest reduction of three per cent was observed in the school where the CPEA programme was not systematically implemented. Additionally, it was evident that in schools where the Book Reports and Writing Portfolios; activities designed specifically to improve language literacies, were emphasised, the reduction in the percentage of non-mastery was greater and the increase in percentage of mastery was huge and significant.

There is evidence to show that the use of Book Reports, Writing Portfolios, Journals and other associated activities were contributing factors in the number of pupils demonstrating literacy at the Grade Four level.



Appendix IA: CPEA Activities by School

CPEA Activities									
School Name	Training	Can Do Skills	Book Report	Writing Portfolio	Projects	Pupil Tests	Teacher Tests		
School A	Limited participation. Fewer than three teachers attended.	No evidence of teachers doing Can-Do-Skills.	Being done by teachers in ASTEP	Being done by teachers in ASTEP	Being done by all teachers to varying degrees	No evidence of this activity.	No evidence of this activity.		
School B	All teachers were trained by the end of Term 1.	Teachers were initially doing the Can-Do-Skills.	All Grades were engaged in this activity. However, this was not the area of greatest emphasis.	All Grades were engaged in some aspects of this activity.	This activity was done by all grades. This was the strong point of the school.	No evidence of doing this activity.	This was done by all teachers including preparing the Table of Specifications.		
School C	All teachers were trained by the end of Term 1.	Teachers were doing the Can-Do-Skills.	Several book reports were completed in all classes however teachers were not completing the personal response section to the story. Pupils enjoyed the oral component of the book report.	All Grades were engaged in aspects of this activity. However there was insufficient evidence of pupils' drafts. Only the final product was available for inspection. The quality of feedback needed to be improved on and the application of CXC marking criteria needed to be implemented in order to maintain the standard.	This activity was done by all grades. However the Grades 2, 3 and 4 put a tremendous effort into this activity.	No evidence of this activity.	This was done by all teachers including preparing the Table of Specifications.		

<p>Subject</p>	<p>All teachers were trained at the initial residential session. One teacher resigned during the period and was replaced by a new teacher.</p>	<p>Being done by teachers.</p>	<p>Book reports being done by all teachers. Pupils were able to identify books they have read recently and provide their impression of the book.</p>	<p>Writing. Portfolios completed by all grades. Pupils were able to show writing pieces and subsequent drafts of work done.</p>	<p>Projects being done in all grades. Projects by Grade One pupils were quite impressive and incorporated a number of literacies.</p>	<p>No evidence of this activity.</p>	<p>Being done by teachers.</p>
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