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## CHAPTER 9

### IMPACT OF CCA ON MYANMAR PRIMARY EDUCATION

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#### 9.1 Purpose of Assessing the Impact of CCA

The CCA impact on various levels of education has been tested in many countries<sup>1</sup>. However, CCA implementation is not completely the same among these countries. Depending upon their cultures and ways of thinking, CCA has been partly modified for adaptation to their own environment. MBESS has also introduced CCA by developing the most suitable form for Myanmar basic education. Therefore, it is significantly meaningful to assess the CCA impact on Myanmar primary education.

Most teachers in Myanmar have started to realize CCA's great impact on children's study. CCA can encourage children to study actively and positively. Children enjoy studying and work hard on activities in classes. Children start to show various facial expressions during classes. These changes are obviously appearing currently in Myanmar's primary schools and are surprising local people such as parents and educational administrators. They can see phenomenal changes in children's attitude and behavior. Nevertheless, these explanations are not deep enough to fully understand the impact of CCA on primary education. To clarify it, MBESS assesses the impact of CCA on Myanmar primary education by using both quantitative and qualitative analyses<sup>2</sup>.

The result of the assessment will be useful for the future activities for the dissemination of CCA across the country. This can also serve as proof of CCA's effectiveness and help local people understand how effective CCA is.

#### 9.2 Method of Assessment

##### **The basic condition of the survey**

The CCA impact on Myanmar primary education is judged mainly by the changes of students' attitude and behavior during lessons and their level of academic achievement. Specifically speaking, it focuses on the issues of whether students participate actively in lessons, whether

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<sup>1</sup> In the APPENDIX, the research of CCA impact on children's learning in Singapore is introduced. Please refer this research.

<sup>2</sup> When such an impact survey is conducted, it is necessary to set an experimental group and a control group to compare. The experimental group in this case of survey should be a group that perfectly implements CCA. On the other hand, the control group does not. In MBESS project, we chose the Yankin Education College Practicing School (YECPS) as a pilot school, where new lesson plans based on CCA are confirmed whether they are effective for children's study. Therefore, YECPS is not qualified for an experimental school in the impact survey. The item of the impact survey was added in the extension phase of MBESS and was conducted on the premise that YECPS would remain the original characteristic, a trial school. This limit to the impact survey has already been confirmed with JICA Headquarters.

they understand problems deeply, whether they think about problems carefully and create their own solutions, whether they concentrate on lessons, whether they listen carefully to other's opinions, whether they are continuously interested in the lesson topic and continue researching about it by themselves even after class, and whether they gain a higher level of academic achievement rather than before.

In this survey, MBESS sets up experimental classes (which effectively implement CCA) and control classes (which are not implementing CCA but using the traditional way of teaching). Prior to the survey, MBESS and the Ministry of Education chose experimental classes from the Yankin Education College Practicing School (YECPS) which has been the pilot school for CCA implementation in MBESS, and control classes from YECPS and Basic Education Middle School No. 4, South Okkalapa (BEMS No.4, South Okkalapa) which have never been exposed to formal training or projects based on CCA. The selection of BEMS No.4, South Okkalapa as the control school is based on its social and educational environments which are similar to YECPS. The survey results are based on comparisons between the experimental classes and the control classes in the degree of the changes in students' attitude and behavior towards lessons and their academic achievement.

Before starting the survey, MBESS confirmed the following conditions:

- (1) Teachers of the experimental classes have enough knowledge of CCA and are currently implementing CCA effectively in their classes, and
- (2) Teachers of the control classes do not have enough knowledge of CCA and cannot implement CCA. They are still conducting lessons in the traditional way.

To conform the conditions above, MBESS provided "questionnaire 2" (see the APPENDIX) to all teachers in YECPS and BEMS No. 4, South Okkalapa. Questionnaire 2 consists of various questions clarifying teacher's attitude towards preparation of lessons, implementation of lessons, review of lessons, and the teacher's technique of implementing lessons. The teacher's qualifications about CCA were judged by reviewing the results of the questionnaire. In addition, MBESS observed lessons conducted by these teachers to check their level of understanding of CCA.

#### **School profiles of both experimental and control classes**

To assess the impact of CCA on Myanmar primary education, MBESS chooses three experimental classes and three control classes from YECPS and the same number of control classes from BEMS No.4, South Okkalapa. Each school's profile is as follows:

##### ***Yankin Education College Practicing School (YECPS):***

*YECPS is located in Yankin, the northern part of Yangon. YECPS is supervised by DEPT and administratively differ from other local schools which are under DBE. The area of Yankin is mostly residential and has a moderate population size. The area is highly educated and economically has an upper middle living standard.*

Many residents are employed in governmental sectors.

YECPS offers both primary and lower secondary levels of education. Its school size is relatively big, 47 teachers and 2,010 students including 1,115 primary students and 895 lower secondary students. There are five buildings all together, three are wooden buildings and the other two are concrete buildings. The classrooms of the primary level use long desks and benches for 3 to 4 students. The classrooms of the lower secondary use desks and chairs for individual students. YECPS has a good reputation in the area. Many students apply for entrance here and some of them commute from away. However, most of the students come from Yankin and South Okkalapa (a neighboring area of Yankin).

The principal of YECPS shows the strong leadership and the teachers perform well under her management. Most teachers are highly educated and hold the degree of B.A or B.Sc. Their teaching technique is relatively good because of their higher qualification and longer teaching experience. This school employs the classroom teacher system which means that one teacher basically takes responsible for managing his/her own class.

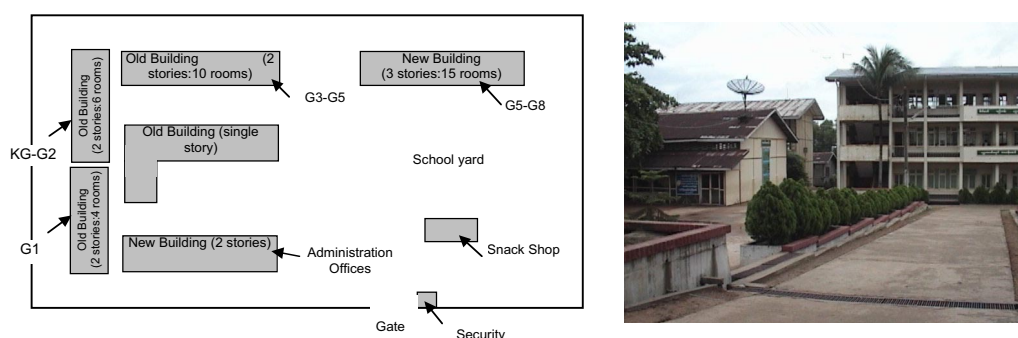


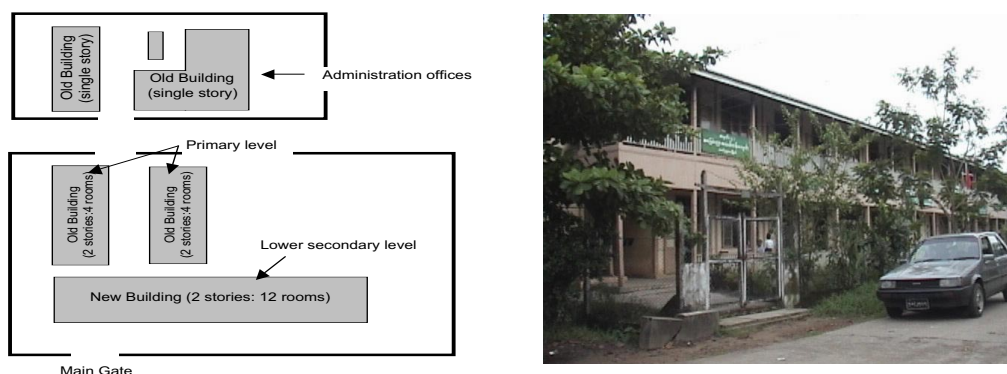
Figure 9-1 YECPS School Compound

#### **BEMS No.4 South Okkalapa:**

BEMS No. 4 South Okkalapa is located in South Okkalapa in the northern part of Yangon. This school is under DBE 3, which is administratively different from DEPT. The area of South Okkalapa is also a residential area with a quiet atmosphere like Yankin. The residents here are highly educated and have a middle class living standard. Most of the people in this area are engaged in the business sector.

BEMS No. 4 South Okkalapa is offering primary and lower secondary levels of education. There are 37 teachers and 662 students (327 primary students and 335 lower secondary students). The school is overcrowded with too many students compared to the size of the buildings. The school has three buildings for classrooms and two buildings for the

administration office. Besides one building used for lower secondary education, all the other buildings are small and old, and made of wood.



**Figure 9-2 BEMS No.4 South Okkalapa School Compound**

The principal of BEMS No. 4 South Okkalapa is enthusiastic about education. The school management and organization have been done well and have helped to create a good reputation for the school. Every year many children apply to this school and entry is highly competitive. Most of the students live in the South Okkalapa area and a few in the neighboring area of Yankin.

Most teachers hold BA or BSc degrees and have extensive teaching experience. Although the teachers have never been exposed to CCA directly by MBESS, they are conducting good lessons for students. This school employs a subject teacher system which means more than two teachers are responsible for one class.

**Table 9-1 Profiles of Two Targeted Schools and Target Classes**

	Yankin Education College Practicing School (YECPS)			BEMS No.4, South Okkalapa		
Location	Yankin			South Okkalapa		
No. of Teacher	23			14		
Teachers teaching GS	12			7		
Teachers teaching BS	8			2		
Teachers teaching SS	8			3		
Average Teaching Experience (years)	19			17		
Classes and No. of Students	KG	A	56	KG	68	
		B	55			
		C	56			
		D	55			
	G1	A	54	G1	66	
		B	55			
		C	55			
		D	54			
	G2	A	53	G2	54	
		B	57			
		C	56			
		D	50			
	G3	A	57	G3	A	34
		B	56		B	36
		C	57			
		D	54			
G4	A	60	G4	A	34	
	B	60		B	35	
	C	59				
	D	56				

Experimental classes  
Control classes

### Procedure of the survey

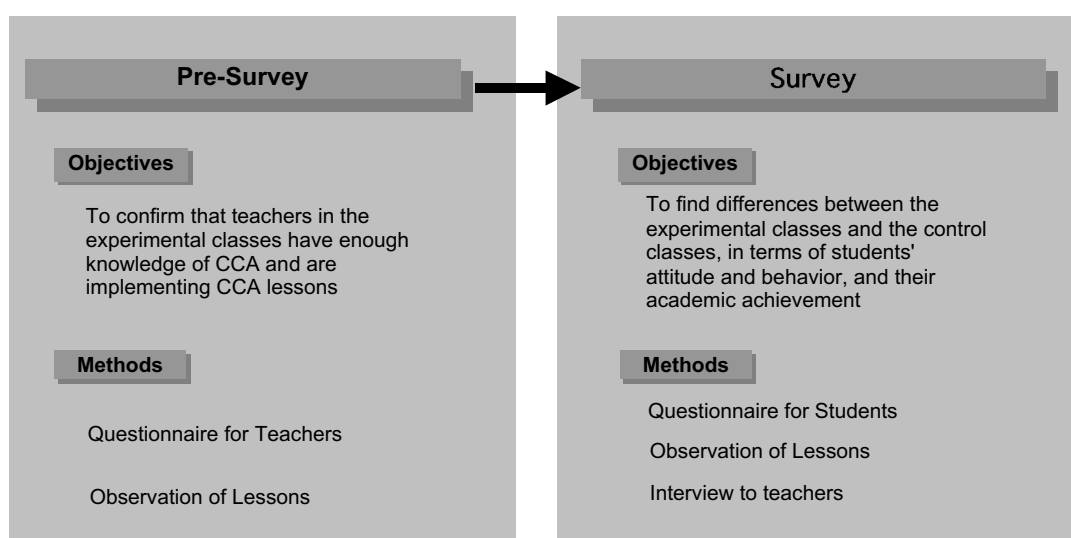
Following the pre-survey, the survey of the CCA impact on Myanmar's primary education is conducted twice: at the beginning of the academic year and the end of the academic year. The procedure of the survey is as follows:

#### *At the beginning of the academic year (June-July, 2003):*

- Step 1: To distribute "questionnaire 1" (see the APPENDIX) to students in the experimental and control classes (To exclude students at grade 2 because of their low competence for answering questionnaire correctly)
- Step 2: To analyze the answers of "questionnaire 1"
- Step 3: To observe lessons in the experimental and control classes
- Step 4: To conclude students' attitude and behavior towards lessons at the beginning of the academic year based on the result of the questionnaire 1 and observation of lessons

#### *At the end of the academic year (November-December, 2003):*

- Step 4: To repeat the steps 1, 2 and 3
- Step 5: To summarize students' attitude and behavior towards lessons at the end of the academic year based on the result of step 4
- Step 6: To compare the results of step 5 with that of step 4
- Step 7: To interview the teachers in the experimental and control classes about students' academic achievement
- Step 8: To conclude the change of students' attitude, behavior and academic achievement from the beginning of the academic year to the end of the academic year



**Figure 9-3 Pre-Survey and Survey**

### 9.3 Result of the Pre-Survey

As mentioned above, MBESS conducted the pre-survey prior to this CCA impact survey to

confirm teacher's qualification in terms of CCA. To check teacher's knowledge level of CCA and technique of CCA practices, questionnaire and observation methods were used.

Based on the results of the pre-survey, three classes each for experimental and control classes from YECPS were selected, and five classes from BEMS No.4, South Okkalapa was selected as another control classes.

**Table 9-2 The Number of Classes Selected**

	YECPS	BEMS 4, SO
<b>Experimental class</b>	3	0
<b>Control class</b>	3	5

Note: The number of selected classes was decided in consideration with the result of the pre-survey and the different teaching systems of the two schools.

Three experimental classes met the following basic conditions:

- ✧ The teachers have relatively higher knowledge of CCA than other teachers
- ✧ The teachers can implement CCA lessons effectively

Eight control classes met the following basic conditions:

- ✧ The teachers have relatively lower knowledge of CCA than the experimental teachers
- ✧ The teachers are conducting traditional lecture style lessons

### Result of Questionnaire 2 and Observation

The result of the questionnaire 2 is as follows:

Teachers in Experimental Classes	Teachers in Control Classes	
	YECPS	BEMS 4, SO
178	157	157
180	168	168
180	167	167
		157
		168
		167
		157
		168

Note: Full score is 210.

#### T-Analysis between Experimental and Control (YECPS)

$P(T<=t)$  both sides shows 0.01275. This is smaller than 0.05 .  
Therefore, there is a difference between the both groups.

#### T-Analysis between Experimental and Control (BEMS 4, SO)

$P(T<=t)$  both sides shows 0.0693. This is smaller than 0.05 .  
Therefore, there is a difference between the both groups.

#### T-Analysis between Control (YECPS) and Control (BEMS 4, SO)

$P(T<=t)$  both sides shows 0.92386. This is not smaller than 0.05 .  
Therefore, there is not a difference between the both groups.

**Figure 9-4 The Result of Questionnaire 2**

The result of the observation is as follows:

**Experimental classes:**

The structure of the lesson including the introduction, body and conclusion, is clear. Teachers try to motivate students by using an interesting story and illustrations in the introduction of the lesson. In the body part, the teachers use many interesting activities to encourage students to discuss and to think. The teachers pay careful attention to each student to confirm how they think and how much they understand.

During the lesson, the teachers smile to create a comfortable atmosphere for student's learning and deal with students in a respectful manner.

**Control classes (YECPS):**

The structure of the lesson is not clear. The lesson consists of various discrete items so that it lacks consistency. Although teachers use interesting activities to motivate students to learn, these activities are not used in a meaningful way. In other words, it is not used in the most effective manner. The teachers always look at students as a group and pay less attention to individual students. Interactions between the teachers and students always consist of asking and answering. The teachers ask simple questions whose answers are in the textbook, and the students answer. There is no opportunity for students to think about certain issues deeply.

During the lesson, the teachers are still powerful authority figures and students obey the teachers following the lessons set by the teachers strictly.

**Control classes (BEMS No. 4, South Okkalapa):**

The situation is almost same as the control classes of YECPS. However, the teacher's attitude towards students is more authoritative than the control classes of YECPS.

#### 9.4 Impact of CCA on Primary Education

##### Result of Comprehensive Analysis

"My students have begun to think deeply about different issues and ask a lot of questions. They always want to tell the teacher and the classmates about their own ideas. When I ask some questions, they are always eager to answer. Now they are not afraid of answering questions." This comment came from a teacher in the experimental class. According to our observation and interview, the students in the experimental classes changed greatly compared to before and their attitude is now very different from the students in the control classes. Although no clear difference between the students in the experimental classes and the control

classes was found statistically, students' attitude towards their studies and their teacher completely changed. The main changes of students' attitude are shown by focusing on three areas, 1) ability and competence, 2) attitude towards study, and 3) attitude towards teachers and parents:

**Ability and Competence**

- The students began to think deeply about issues,
- The students began to create their own opinions and express them,
- The students began to ask questions eagerly when they did not understand something, and
- The students began to write their own opinions in their notebooks.

**Attitude towards study**

- The students began to actively participate in lesson, and
- The students began to ask questions without any hesitation.

**Attitude towards teacher and parents**

- The students began to develop a friendly relationship with teachers,
- The students began to enjoy talking about different issues with their teacher, and
- The students began to contemplate questions asked to them by teachers and parents. When they did not agree with something teachers and parents said, they began to ask "why?"

In terms of students' academic achievement, we could not find clear differences between the students in the experimental classes and the control classes. This is because the current educational system in Myanmar assesses children's academic achievement only by the chapter-end test, which focuses mainly on how much children can memorize the contents of the textbooks. It does not cover CCA's most important issue of how children think and what ideas they have. Therefore, any differences between the students in the experimental classes and in the control classes could not be observed under the current assessment system.

This highlights an important finding: as long as Myanmar keeps the current assessment system, the real impact of CCA on children's academic achievement will not be seen. To find the real impact on children's academic accomplishment, the current assessment system must be modified or changed.





**Experimental Class  
(YECPS)**



**Control Class (YECPS)**



**Control Class (BEMS No. 4, South Okkalapa)**

## Result of Questionnaire 1, Observation and Interview

The result of the questionnaire 1 is as follows:

Students in Experimental Classes		Students in Control Classes			
		YECPS		BEMS 4, SO	
Before	After	Before	After	Before	After
85.2	84.4	79.4	79.9	80.0	81.5
82.0	80.4	82.6	85.1	78.1	81.6
				79.9	81.9
				76.5	78.9

Note: Full score is 90.

### Difference b/w Experimental and Control Classes

#### T-analysis b/w Experimental and Control (YECPS)

$P(T<=t)$  bothsides shows 0.9784. This is not smaller than 0.05.  
Therefore, there is not a difference between the both groups.

#### T-analysis b/w Experimental and Control (BEMS 4, SO)

$P(T<=t)$  bothsides shows 0.4261. This is not smaller than 0.05.  
Therefore, there is not a difference between the both groups.

#### T-analysis b/w Control (YECPS) and Control (BEMS 4, SO)

$P(T<=t)$  bothsides shows 0.4681. This is not smaller than 0.05.  
Therefore, there is not a difference between the both groups.

### Difference b/w Before and After

#### T-analysis of Experimental Class

$P(T<=t)$  bothsides shows 0.6855. This is not smaller than 0.05.  
Therefore, there is not a difference between the both groups.

#### T-analysis of Control Class (YECPS)

$P(T<=t)$  bothsides shows 0.6718. This is not smaller than 0.05.  
Therefore, there is not a difference between the both groups.

#### T-analysis of Control Class (BEMS 4, SO)

$P(T<=t)$  bothsides shows 0.0735. This is not smaller than 0.05.  
Therefore, there is not a difference between the both groups.

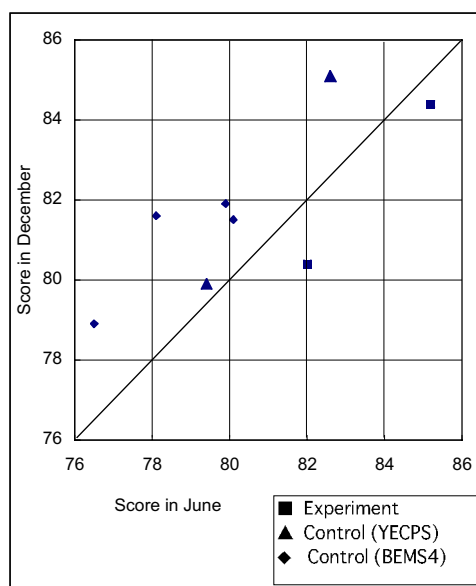


Figure 9-5 The Result of Questionnaire 1

The result of observations and interviews is as follows:

### Experimental classes:

Instead of listening to the teacher and memorizing textbooks, the students have begun to think about issues deeply and try to find their own solutions and create their own ideas. They have become active learners and have begun to ask their teachers questions when they do not understand something.

They began to write their own opinions in their notebook, instead of only copying the textbook.

This attitude towards classes can be observed clearly during lessons. When the teacher asks some questions, the students want to raise their hand and answer. This is completely different from the students in conventional classes. In such classes, the students are always afraid of answering because they worry about making mistakes. In addition, the students in the experimental classes developed friendly relationships with the teacher and sometimes talked about their personal issues with the teacher.

This attitude change can be seen at home too. Instead of obeying parents without any questions, the students began to ask parents “why?” when they did not agree with their parents. Some parents welcome this kind of attitude and think their children improved their thinking. On the other hand, other parents do not welcome such changes.

In terms of the academic achievement of the students, there is no clear difference between the students in the experimental classes and in the control classes. This is because the current assessment system focuses only on children’s level of memorization, and does not measure children’s level of thinking.

**Control classes (YECPS):**

The students devote themselves to the memorization and copying of textbooks without any deep thinking. When the teacher asks some questions, the students always answer by reading the textbooks. They never express their own opinions and completely believe that the right answer is only in the textbooks not in their own opinions. In their note taking, they write down only what the textbooks say without including any of their own opinions.

During classes, the students always listen to the teacher carefully. They never ask the teacher questions because they have a strong belief that asking questions is foolish. In addition, when the teacher asks the students some questions, students are always afraid of answering. They always maintain an obedient attitude towards teachers and parents.

**Control classes (BEMS No. 4, South Okkalapa):**

The situation is the same as the control classes of YECPS.



## APPEDIX 9-1: Procedure of Survey

### Pre-Survey

In the pre-survey, questionnaire 2 is used to check teacher's knowledge level of CCA. In addition, lessons are observed to check whether the lessons are based on CCA.

### Structure of questionnaire 2

Question 2 consists of 49 questions which cover (1) teacher's attitude toward classes (including (1-1) attitude in preparing classes, (1-2) attitude during classes, and (1-3) attitude after classes) and (2) skill in effective implementation of classes (including (2-1) classes on which students concentrate, (2-2) classes in which all students participate actively, (2-3) classes whose focal points are clear, and (2-4) classes which impress students). The questions covering these areas are as follows:

(1) Teacher's attitude:	Questions 1 to 30
(1-1) Attitude during preparation:	Questions 1 to 10
(1-2) Attitude during classes:	Questions 11 to 26
(1-3) Attitude after classes:	Questions 27 to 30
(2) Teacher's skill:	Questions 31 to 42
(2-1) Concentration:	Questions 31 to 35
(2-2) Participation:	Questions 36 and 37
(2-3) Clear focal points:	Questions 38 to 40
(2-4) Impression:	Questions 41 and 42
(3) General information	Questions 43 to 49

Each answer is given the value either one from "1" to "5." The questions given the value of "5" for the answer "Always" and the value of "1" for the answer "Never" are the questions 1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 15, 19, 20, 22, 23, 26, 27, 28, 29, 30, 31, 32, 33, 35, 37, 39, 40, 41 and 42. The questions given the value of "5" for the answer "Never" and the value of "1" for the answer "Always" are the questions 8, 9, 14, 16, 17, 18, 21, 24, 25, 34, 36 and 38. The questions 43 to 49 are not given any values.

**Questionnaire 2**

Please write your school name and circle the grade you are teaching. SCHOOL: ( ) GRADE: KG, G1, G2, G3 or G4

Please read the following statements and circle one in consideration of your recent attitude toward class.

1. I read textbooks (and teacher's guides) carefully before class. A. Never B. Seldom C. Sometimes D. Often E. Always
2. I understand the focal points of the topic before class. A. Never B. Seldom C. Sometimes D. Often E. Always
3. I know the learning objectives of today's topic. A. Never B. Seldom C. Sometimes D. Often E. Always
4. I understand the relationship between today's topic and the previous topics, and between today's topic and the preceding topics. A. Never B. Seldom C. Sometimes D. Often E. Always
5. I prepare lesson plans before class. A. Never B. Seldom C. Sometimes D. Often E. Always
6. I prepare students' activities in class such as observation, group discussion, experiment, presentation, etc. A. Never B. Seldom C. Sometimes D. Often E. Always
7. I practice experiments or other physical activities before class to make sure they can be implemented well in class. A. Never B. Seldom C. Sometimes D. Often E. Always
8. I bring many teaching aids to class and think about the usage of them during class. A. Never B. Seldom C. Sometimes D. Often E. Always
9. I think about how to assess students after class. A. Never B. Seldom C. Sometimes D. Often E. Always
10. I arrange the physical layout of the classroom before class in order to create a successful lesson. A. Never B. Seldom C. Sometimes D. Often E. Always
11. I try to start lessons with interesting issues to motivate students. A. Never B. Seldom C. Sometimes D. Often E. Always
12. I try to make an atmosphere in which students can express their opinions freely. A. Never B. Seldom C. Sometimes D. Often E. Always
13. I make sure students are quiet and listen carefully to me when I am explaining something. A. Never B. Seldom C. Sometimes D. Often E. Always
14. I keep students quiet during class and do not allow them to express their ideas. A. Never B. Seldom C. Sometimes D. Often E. Always
15. I give students enough time to think about some issues deeply during class. A. Never B. Seldom C. Sometimes D. Often E. Always
16. I follow textbooks strictly. A. Never B. Seldom C. Sometimes D. Often E. Always
17. I spend most of the class time explaining the contents of the textbooks. A. Never B. Seldom C. Sometimes D. Often E. Always
18. I feel that 35 (or 30) minutes is quite long for one lesson. A. Never B. Seldom C. Sometimes D. Often E. Always
19. I pay attention to all students during class. A. Never B. Seldom C. Sometimes D. Often E. Always
20. I accept all opinions from students during class and help them develop their ideas. A. Never B. Seldom C. Sometimes D. Often E. Always
21. I reprimand students strictly when they express incorrect answers in class. A. Never B. Seldom C. Sometimes D. Often E. Always
22. I think about and use teaching aids effectively during class. A. Never B. Seldom C. Sometimes D. Often E. Always
23. I try to check the levels of comprehension of all students during class and support those who are having difficulties. A. Never B. Seldom C. Sometimes D. Often E. Always
24. I conduct any lessons in keeping the same speed, the same order of the contents to show, etc. A. Never B. Seldom C. Sometimes D. Often E. Always
25. I pay more attention to students who are active and cheerful during class. A. Never B. Seldom C. Sometimes D. Often E. Always
26. I have the necessary supplies and materials ready for the lesson and time is not wasted looking for them once the lesson has begun. A. Never B. Seldom C. Sometimes D. Often E. Always
27. I reflect on how the lesson went and what might have been "unclear" or "clear." A. Never B. Seldom C. Sometimes D. Often E. Always
28. I make notes to myself for follow-up lessons. A. Never B. Seldom C. Sometimes D. Often E. Always
29. I teach some or all portions of a lesson again if students were "unclear" about the meanings. A. Never B. Seldom C. Sometimes D. Often E. Always
30. I give remedial classes to students who did not understand the lessons. A. Never B. Seldom C. Sometimes D. Often E. Always
31. Students pay attention to me and listen carefully to my explanations when I am talking. A. Never B. Seldom C. Sometimes D. Often E. Always
32. Students express their opinions and talk enthusiastically about the question when I ask a question. A. Never B. Seldom C. Sometimes D. Often E. Always
33. All students concentrate carefully when I give them time to think deeply about some issues in class. A. Never B. Seldom C. Sometimes D. Often E. Always
34. Students start to talk about the other things which are not related to the topic during group discussions. A. Never B. Seldom C. Sometimes D. Often E. Always
35. Students show various facial expressions during class such as smiling, laughing, happy, disappointed, etc. A. Never B. Seldom C. Sometimes D. Often E. Always
36. Only a few students express opinions actively, and the others keep quiet. A. Never B. Seldom C. Sometimes D. Often E. Always
37. Students listen to the opinions of their classmate during class and admit their good points each other. A. Never B. Seldom C. Sometimes D. Often E. Always
38. I teach all the issues in the textbooks equally during class. A. Never B. Seldom C. Sometimes D. Often E. Always
39. I try to make students recall the previous lessons and let them find solutions to problems using knowledge gained during previous class. A. Never B. Seldom C. Sometimes D. Often E. Always
40. Students achieve the objectives of the lessons. A. Never B. Seldom C. Sometimes D. Often E. Always
41. Students realize after class that their previous knowledge was neither complete nor correct, and they feel satisfaction after gaining new knowledge. A. Never B. Seldom C. Sometimes D. Often E. Always
42. I ask questions and introduce topics in the way that surprises students and piques their interest. A. Never B. Seldom C. Sometimes D. Often E. Always
43. I have knowledge about CCA. A. Not at all B. A little C. More or Less D. Considerable E. A lot
44. I implement CCA in my class. A. Never B. Seldom C. Sometimes D. Often E. Always
45. I enjoy teaching. A. Never B. Seldom C. Sometimes D. Often E. Always
46. I feel satisfaction after class. A. Never B. Seldom C. Sometimes D. Often E. Always
47. I think that "teaching" is a creative (or productive) work. A. Never B. Seldom C. Sometimes D. Often E. Always
48. I think that I will continue this job (teaching) until retirement. A. Never B. Seldom C. Sometimes D. Often E. Always
49. I usually spend ( ) to prepare one lesson. A. Less than 29 minutes B. 30-59 minutes C. 1 hour-1 hour and 59 minutes D. 2 hours-2 hours and 59 minutes E. More than 3 hours
50. Please write your name. ( )

**Observation of lessons**

**To diagnose lesson plans:** All designated teachers are requested to submit their lesson plans beforehand. MBESS analyzes these lesson plans from the following points of view.

- (1) Lesson structure  
Whether lesson plans consist of the three parts: introduction, body and conclusion, and each part is given respective roles to function effectively? The introduction part should be planned to motivate students by dealing with their prior knowledge. The body part should deal with the main issues of the lesson. The conclusion should be planned to confirm students' level of understanding.
- (2) Students' motivation for learning  
Whether lessons are planned to motivate students at the beginning? Various ideas can be used to enhance students' motivation, such as using their prior knowledge, introducing a short story, using a quiz, etc.
- (3) Students' activity  
Whether lesson plans include students' activities and are planned to work these effectively during lessons? There are various activities such as group discussion, observation, interviewing, reporting and presentation.
- (4) Students deep understanding  
Whether lesson plans include chances in which students think about issues deeply and find their own solutions and ideas? Specifically speaking, when teachers ask questions, these questions should be ones requiring to students' own ideas.

**To observe classes and record the procedure:** The designated classes are observed by MBESS members. At the same time, the classes are videotaped. During observation, the process of implementing a lesson is recorded in detail by the members. For example, what did a teacher talk about? What questions did the teacher ask? How did students respond to the questions?

**To analyze the classes:** After observation, both teacher's and students' behaviors are analyzed based on the record of the class. Teacher's behavior usually include the following 12 actions:

- (1) To observe
- (2) To let students realize
- (3) To talk with students
- (4) To ask questions
- (5) To show a model and sample
- (6) To provide information
- (7) To explain
- (8) To conclude
- (9) To instruct to do something
- (10) To provide real experiences
- (11) To check children's level of understanding
- (12) To encourage and praise students

On the other hand, students' behavior is usually divided into the following five categories (and 20 sub-categories):

- (1) To look for
  - (1-1) To visit
  - (1-2) To collect
  - (1-3) To look for materials
- (2) To research
  - (2-1) To read materials
  - (2-2) To listen to someone
  - (2-3) To watch TV or VTR
  - (2-4) To observe
- (3) To analyze and practice
  - (3-1) To think about problems
  - (3-2) To find and realize the key points
  - (3-3) To categorize
  - (3-4) To practice
  - (3-5) To apply
  - (3-6) To write reports
  - (3-7) To produce
  - (3-8) To appreciate
- (4) To share
  - (4-1) To discuss
  - (4-2) To present
  - (4-3) To comment
- (5) To conclude
  - (5-1) To check
  - (5-2) To review and evaluate

The connection and relation between these behaviors of the teacher and students during the lesson are checked one by one. It is analyzed whether these behaviors work effectively. If these work effectively, it is clarified what parts of the lesson are more effective and how these parts are effective. If these do not work effectively, it is also clarified what parts have difficulties and how these are not work well.



Table 9-3 Matrix of Actions of Teachers and Children (In the case of CCA)

Teacher's Actions \ Students' Actions		Teacher's Actions												
		To observe (見守る)	To let children realize (気付かせる)	To talk with children (呼び掛けをする)	To ask questions (疑問する)	To show a model (モデルを提示する)	To provide information (関連情報を提供する)	To explain (説明する)	To conclude (まとまざる)	To instruct to do something (指示をする)	To provide real experiences (体験をさせる)	To check children's understanding (確認する)	To encourage and praise children (励ます)	
To look for (探索する)	To visit (訪問する)	Blue												
	To collect (採集/採取する)	Blue												
	To look for materials (資料を探す)	Blue												
To research (受け入れる)	To read materials (資料を読む)	Blue												
	To listen to someone (人の話を聞く)	Blue												
	To watch TV or VTR (TV/VTRを視聴する)	Blue												
	To observe (実物を観察する)	Blue												
To analyze and practice (取り組む)	To think about problems (問題や課題について考える)	Blue			Yellow			Yellow						
	To find and realize the key points (発見する/気付く)	Blue			Yellow									
	To categorize (分類し、纏める)	Blue									Yellow			
	To practice (練習する)	Blue												
	To apply (応用する)	Blue												
	To write reports (文章化する)	Blue												
	To produce (制作する)	Blue						Yellow			Yellow			
	To appreciate (鑑賞する)	Blue												
To share (共有する)	To discuss (話し合う)	Blue												
	To present (発表する)	Yellow												
	To comment (批評する)	Blue												
To conclude (確認する)	To check (確かめる)	Blue												
	To review and evaluate (自己評価し、反省する)	Blue												

Legend:

- Collaboration of teacher's actions and students' actions
- Teacher's actions first, students actions next
- Students' actions first, teacher's action next

Source: Eiichi Kajita, "Evaluation," p232, Yuhikaku.

## Survey of CCA Impact

In the main survey, questionnaire 1 is used to collect quantitative data for student's attitude and behavior. In addition, observation and interview are used to get qualitative data.

### Structure of Questionnaires 1

Questionnaire 1 consists of 31 questions. Except the question 31, students can answer each question by choosing either "Agree" or "Disagree." The question 31 requires to choose one answer among five options. The questionnaire cover various different attitude of students toward classes: (1) Active participation in classes, (2) Deep understanding of the contents, (3) Creation of their original ideas, (4) Concentration on classes, (5) Understanding of other students' opinions, and (6) Self-efforts after classes. The details of the questionnaire are as follows:

(1) Active participation:	Questions 1 to 5
(2) Deep understanding:	Questions 6 to 13
(3) Original ideas:	Questions 14 to 16
(4) Concentration:	Questions 17 to 22
(5) Understanding of opinions:	Questions 23 and 24
(6) Self-efforts:	Questions 25 to 30

Each answer is given the value either "1" or "3." The questions given the value of "3" for the answer "Agree" and "1" for the answer "Disagree" are the questions 1, 3, 4, 5, 7, 8, 9, 11, 12, 14, 15, 16, 17, 18, 21, 23, 25, 26, 27, 28 and 30. The questions given the value of "3" for the answer "Disagree" and "1" for the answer "Agree" are the questions 2, 6, 10, 13, 19, 20, 22, 24 and 29.

Question 2 consists of 49 questions which cover (1) teacher's attitude toward classes (including (1-1) attitude in preparing classes, (1-2) attitude during classes, and (1-3) attitude after classes) and (2) skill in effective implementation of classes (including (2-1) classes on which students concentrate, (2-2) classes in which all students participate actively, (2-3) classes whose focal points are clear, and (2-4) classes which impress students). The questions covering these areas are as follows:

(1) Teacher's attitude:	Questions 1 to 30
(1-4) Attitude during preparation:	Questions 1 to 10
(1-5) Attitude during classes:	Questions 11 to 26
(1-6) Attitude after classes:	Questions 27 to 30
(2) Teacher's skill:	Questions 31 to 42
(2-1) Concentration:	Questions 31 to 35
(2-2) Participation:	Questions 36 and 37
(2-3) Clear focal points:	Questions 38 to 40
(2-4) Impression:	Questions 41 and 42
(3) General information	Questions 43 to 49

Each answer is given the value either one from “1” to “5.” The questions given the value of “5” for the answer “Always” and the value of “1” for the answer “Never” are the questions 1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 15, 19, 20, 22, 23, 26, 27, 28, 29, 30, 31, 32, 33, 35, 37, 39, 40, 41 and 42. The questions given the value of “5” for the answer “Never” and the value of “1” for the answer “Always” are the questions 8, 9, 14, 16, 17, 18, 21, 24, 25, 34, 36 and 38. The questions 43 to 49 are not given any values.

**Questionnaire 1**

Please circle your sex and grade and write your school name. **SEX: Boy or Girl GRADE: G3 or G4 SCHOOL: (**

**Please mention the one subject you like best. ( )**

**Please read the following statements and circle one in consideration of your recent attitude toward class.**

- |  |                                 |                                |
|--|---------------------------------|--------------------------------|
| 1. I like to study.  | Agree                           | Disagree                       |
| 2. I hesitate to express my opinions in class.   | Agree                           | Disagree                       |
| 3. I cooperate with my classmates in class.  | Agree                           | Disagree                       |
| 4. I participate actively in class.  | Agree                           | Disagree                       |
| 5. I show leadership in class, especially in group discussions and other group activities. | Agree                           | Disagree                       |
| 6. I am not sure what I understand and what I do not understand in class.                  | Agree                           | Disagree                       |
| 7. I try to find out why I made mistakes in class.   | Agree                           | Disagree                       |
| 8. I ask my classmates questions when I do not understand classes.                         | Agree                           | Disagree                       |
| 9. I ask the teacher when I do not understand something.                                   | Agree                           | Disagree                       |
| 10. I do not know what to do when I make a mistake in class.                               | Agree                           | Disagree                       |
| 11. I know what is the most important point among many issues learnt in class.             | Agree                           | Disagree                       |
| 12. I can follow classes easily.   | Agree                           | Disagree                       |
| 13. I think the teacher teaches too fast.  | Agree                           | Disagree                       |
| 14. Classmates and teachers have told me that I have unique ideas.                         | Agree                           | Disagree                       |
| 15. I often have a question about an issue learnt such as "Why?"                           | Agree                           | Disagree                       |
| 16. I have my own style for studying, such as reading out loud, writing many times, etc.   | Agree                           | Disagree                       |
| 17. I always concentrate in class.   | Agree                           | Disagree                       |
| 18. I listen to the teacher very carefully.  | Agree                           | Disagree                       |
| 19. I seldom take notes in class.  | Agree                           | Disagree                       |
| 20. I always think about other things during class which are not related to class.         | Agree                           | Disagree                       |
| 21. I try to listen to teacher carefully even when class is not interesting to me.         | Agree                           | Disagree                       |
| 22. I cannot keep my concentration by the end of class.                                    | Agree                           | Disagree                       |
| 23. I listen to my classmates' opinions carefully during discussions.                      | Agree                           | Disagree                       |
| 24. I have never given comments to classmates after listening to their opinions.           | Agree                           | Disagree                       |
| 25. I talk to my parents (or siblings) about what I learnt in school.                      | Agree                           | Disagree                       |
| 26. I continue my studies at home to deepen my understanding.                              | Agree                           | Disagree                       |
| 27. I want to know more about what I learnt in class.                                      | Agree                           | Disagree                       |
| 28. I have done extra research at home more about what I learnt in class.                  | Agree                           | Disagree                       |
| 29. I do not review at home what I learnt in school.                                       | Agree                           | Disagree                       |
| 30. I prepare for the next day's classes at home.  | Agree                           | Disagree                       |
| 31. I usually study at home for ( ) minutes.   | A. Less than 30 minutes         | B. 30 minutes ~ 59 minutes     |
|  | C. 1 hour ~ 1 hour 59 minutes   | D. 2 hours ~ 2 hour 59 minutes |
|  | E. 3 hours or more than 3 hours |                                |

**APPENDIX 9-2: CCA Impact - Case of Singapore -**

The following is an article of “The Strait Times (Singapore English newspaper)” published in January 21, 2003. The article deals with the changes of children’s attitude towards school and studying through a new educational method called PCF project. This is directly related to the result of CCA.

**Title:  
Never mind neat handwriting;  
switch to activity-based learning  
promises to turn out confident  
children who speak up**

Kindergarten classes are about to get more noisy, and teachers will stop standing at the front issuing orders and dishing out worksheets. Children will be encouraged to ask questions and talk to their classmates. And they will not have to turn in practice-perfect handwriting or neatly-colored drawings. A new program, developed by the Educational Ministry, with help from experts here and in Britain, moves away from what currently happens in many PAP Community Foundation (PCF) kindergartens.

All pre-schoolers will soon be taught through play, activity, discovery and experiment – methods already private kindergartens here.

The biggest impact will be felt by the 75 percent of children who attend the 312 PCF kindergartens, where the emphasis is on getting them in shape for Primary 1.

Pre-school teachers say the new program may produce children who do not write or color as neatly as the typical PFC product.

But it is likely to turn out more confident children, eager to learn and able to communicate easily with teachers and classmates alike.

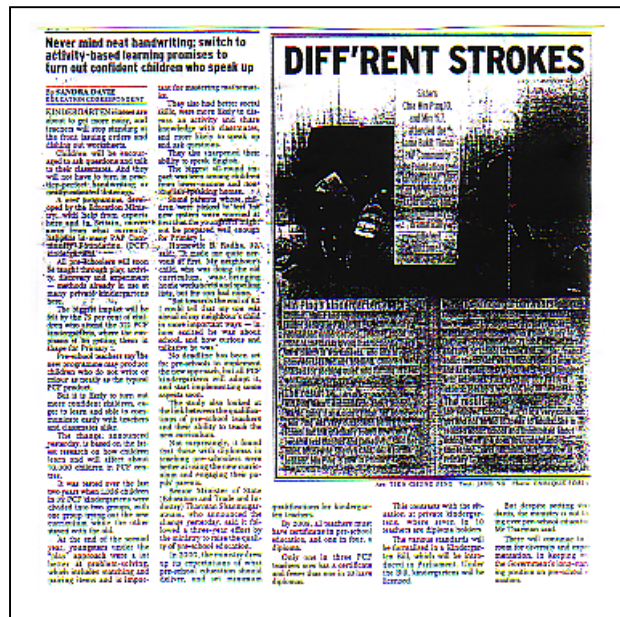
The change, announced yesterday, is based on the latest research on how children learn and will affect about 70,000 children in PFC centers.

It was tested over the last two years when 1,336 children in 32 PCF kindergartens were divided into two groups, with one group trying out the new curriculum while the other stayed with the old.

At the end of the second year, youngsters under the “play” approach were a lot better at problem-solving, which includes matching and pairing items and is important for mastering mathematics.

They also had better social skills, were more likely to discuss an activity and share knowledge with classmates, and more likely to speak up and ask questions.

They also sharpened their ability to speak English.



The biggest all-round impact was seen among children from lower-income and non-English-speaking homes.

Some parents whose children were picked to test the new system were worried at first that the youngsters might not be prepared well enough for Primary 1.

Housewife B. Radha, 32, said: "It made me quite nervous at first. My neighbor's child, who was doing the old curriculum, was bringing home worksheets and spelling lists, but my son had none. "But towards the end of K2 I could tell that my son was ahead of my neighbor's child in more important ways – in how excited he was about school, and how curious and talkative he was."

No deadline has been set for pre-schools to implement the new approach, but all PCF kindergartens will adopt it, and start implementing some aspects soon.

The study also looked at the link between the qualifications of pre-school teachers and their ability to teach the new curriculum.

Not surprisingly, it found that those with diplomas in teaching pre-schoolers were better at using the new curriculum and engaging their pupils' parents.

Senior Minister of State (Education and Trade and Industry) Tharman Shanmugaratnam, who announced the change yesterday, said it followed a three-year effort by the ministry to raise the quality of pre-school education.

In 2000, the ministry drew up its expectations of what pre-school education should deliver, and set minimum qualifications for kindergarten teachers.

By 2008, all teachers must have certificates in pre-school education, and one in four, a diploma.

Only one in three PCF teachers now has a certificate and fewer than one in 10 have diplomas.

This contrasts with the situation at private kindergartens, where seven in 10 teachers are diploma holders.

The various standards will be formalized in a Kindergarten Bill, which will be introduced in Parliament. Under the Bill, kindergartens will be licensed.

But despite setting standards, the ministry is not taking over pre-school education, Mr. Tharman said.

There will continue to be room for diversity and experimentation, in keeping with the Government's long-standing position on pre-school education.

## **DIFFERENT STROKES**

Sisters Chis Min Ping, 10, and Min Yi, 7, attended the same Bukit Timah PAP Community Foundation kindergarten, but had very different experiences and their mum says, dramatically different outcomes.

### **Min Pong's kindergartens years:**

English, maths and mother-tongue were taught separately as in all PAP Community Foundation kindergartens. Teacher stood in front of the class, giving instructions. There were plenty of worksheets, and lots of homework, especially spelling. Children were praised for keeping quiet and turning in neat work.

**The result:**

Min Ping wasn't enthusiastic about school, and feared going if she didn't finish her homework. "Min Ping was very outspoken before pre-school but she gradually toned down and became less curious and talkative," said her mum, housewife Sheryn Chia, 46, a former teacher. Min Ping is now in Primary 4.

**Min Yi's kindergarten years:**

English, maths and mother-tongue lessons were taught through activity, play, experimentation and discovery, in a pilot study for the new program. Min Yi took her pet turtle and toys to school to show and tell her friends about them. Kids were encouraged to interact and ask questions. Worksheets were combined with activities, such as using rice to form letters. Teachers were not big on neatness.

**The result:**

She enjoyed school. "Min Yi is a very confident girl and not afraid to speak to adults. She is relaxed about school and uninhibited about asking when she does not understand something," says her mum. Min Yi is now in Primary 1.

