Action Plan

The Group Training Course on

"Study on Education Improvement of Training Course of Teacher" J1000891

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Country	Belize
Organization	Stann Creek Ecumenical Junior College
Position	Lecturer in Primary Education

Title	Improving Teaching Approach
Period	1 ½ year
Target Location	Stann Creek District
Target group	Student Teachers at Stann Creek Ecumenical Junior College

NARRATIVE SUMMARY
OVERALL GOAL:
To bring about changes in the teaching methodologies used by teachers in the Primary Classrooms
SPECIFIC OBJECTIVES (PROJECT PURPOSE)
1. At least 60% of the trained teachers in the Stann Creek District will use the problem solving approach to teach mathematics 2. Teachers in training will use the problem solving approach to mathematical teaching during their practicum exercise
YOUR LEARNING IN JAPAN
1. The Problem Solving Approach' has been known as Japanese teaching approach (Stigler & Hiebert; 1999). 2. It is a well-known theory of teaching for developing children who learn mathematics by and for themselves in Japan. 3. The problem solving approaches combined with lesson study has spread to the world from Japan through the comparative studies and teacher training programs for developing countries 4. Japanese Problem Solving Approach, is known as the process through 'posing a problem', 'independent solving', 'comparison and discussion', and 'summary and application

5. Japanese Problem solving approach has long term effects on children's learning and development

OUTPUTS by applying your learning in Japan

Output 1: Acquisition of School Board's permission to implement program in the school

Output 2: Student teachers training program on how to teach using the problem solving approach in Mathematics

Output 3: Monitoring system is developed

ACTIVITIES

Output 1:

Activity 1-1: JICA Participant will meet with the Dean of Ecumenical Junior College to sensitize him about what was learned at JICA Training in Japan

Activity 1-2: JICA Participant will hold further discussion with the Dean of Ecumenical Junior College and the Department chair for Education about the impact of Lesson Study in Japan and the use of the Problem Solving Approach

Activity 1-3: JICA Participant will meet with members of Ecumenical Junior College Board of Governors reporting on JICA Training and requesting permission to implement a program for teachers doing the Mathematics Method Course

Activity 1-4: JICA Participant will review existing course syllabus and make modification to the course to accommodate teaching mathematics using the Problem Solving Approach.

Activity 1-5: JICA participant will present project to the Dean of Ecumenical Junior College, Department Chair, Education and the Chairman Board of Governors.

Activity 1-6: JICA Participant will meet with the authorities for final approval of the project.

Activity 1-7: JICA Participant will prepare course outlines for project

Activity 1-8: JICA Participant will present and discuss the course outline with Dean Ecumenical Junior College and Department Chair. Modifications will be made if necessary.

Activity 2 – 1: New Course Outline will be presented to students doing the Mathematics Methods Course

Activity 2 – 2: Discussion of Japanese Lesson Study with students, excerpts from Japanese

Textbook will be presented.

Activity 2 – 3: Session on the Problem Solving Approach to teaching Mathematics (benefits for teacher, children, country)

Activity 2 – 4: Session reflecting on system commonly used to teach Mathematics in Belize and its impact on children's learning

Activity 2 – 5: Session on effective "problem posing" inside the classroom. Students will be given topics. They will discuss them and come up with problems to pose to children.

Activity 2 – 6: Session on "independent solving" students will identify ways how students may solve the problem and possible answers.

Activity 2 – 7: Session on "comparing and discussing" solutions and methods will be done. Justification of each method used by students will be done.

Activity 2 – 8: Session on summarizing problems posed will be done.

Activity 2 – 9: Session on the application of the Problem Solving Approach in Mathematics will be done. Students will be given problems; they will pose questions for students, come up with a variety of ways that they could be solved and then carry out the exercise.

Activity 2 – 10: Will have practice exercises. Feedback will be received from student teachers about using the problem solving approach in teaching mathematics will be done.

Activity 2 – 11: Student teachers will adopt the use of the problem solving method to mathematical teaching.

Activity 2 – 12: Session on planning for the mathematics using the problem solving approach will be done.

Activity 3 – 1: Cooperating Teachers for student teachers will be identified within the Stann Creek District

Activity 3 – 2: Training session for cooperating teachers will be held; discussion of and demonstration of the problem solving approach to mathematical teaching will be done.

Activity 3 – 3: Student teachers will be posted to their cooperating teachers

Activity 3 – 4: Students lesson plans, preparation and teaching will be monitored

Activity 3 – 5: Student Teachers will be given a final assessment to teach a lesson in Mathematics using the problem solving approach.

Plan of Operation

Output	Activity	Expected Results	Time Schedule	Person in charge	Implementers	Materials and equipments	Budget	Remarks
1.1	Meet with the Dean of Ecumenical Junior College	Dean is appraised of what was learned in Japan	March, 2011	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Training manual, textbooks, CD, Hand-outs, Resource Books, Pictures, Daily Reports	Nil	Dean of the institution develops interest in implementation of a project in Dangriga
1.2	Meet with the Dean of Ecumenical Junior College and Department Chair of Education	Dean is appraised of Lesson Study and the use of problem solving approach in Mathematical teaching in Japan	March, 2011	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Textbooks, CD, Resource Books, Pictures, Daily Reports	Nil	Plan of action is met favourably by Department Chair and Dean of Ecumenical Junior College
1.3	Meet with Members of the Board of Governors Ecumenical Junior College	Board members are appraised of JICA and the plan to add teaching using the Problem	March, 2011	Lecturer in the Associates Degree in Primary Education	Lecturer in the Associates Degree in Primary Education at	Training manual, textbooks, CD, Hand-outs, Resource Books,	Nil	Board Members appreciates the presentation and accepts proposal to

		solving approach to the Mathematics methods course.		at Ecumenical junior College	Ecumenical junior College	Pictures, Daily Reports		make changes to the course
1.4	Review existing course syllabus	Modification of the syllabus in order for the addition of a course on teaching using the problem solving approach in Mathematics	March - April, 2011	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Japanese Textbook, Resource books from Japan, Reference Book for Math methods course E. J. C.	$50. 00 Bze	Revision exercise will take about a month to be completed
1.5	Meet the Dean of Ecumenical Junior College, Head of Department, Education and the Chairman Board of Governors	Project is presented to the authorities for their review and comments	End of April, 2011	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Japanese Textbook, Resource books from Japan, Reference Book for Math methods course E. J. C., Course Syllabus	Nil	Matter is discussed over two meetings. Recommendations for modification is made.
1.6	Meet the Dean of Ecumenical Junior College,	Final draft of the project is presented	Mid May, 2011	Lecturer in the Associates	Lecturer in the Associates	Resource books from Japan, Reference	Nil	Project is approved by the Board and

	Head of Department, Education and the Chairman Board of Governors			Degree in Primary Education at Ecumenical junior College	Degree in Primary Education at Ecumenical junior College	Book for Math methods course E. J. C., Course Syllabus		Managing authorities of E. J. C
1.7	Prepare Course Outline for the project	Course outline is completed	Mid May – End of May, 2011	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Resource books from Japan, Reference Book for Math methods course E. J. C., Course Syllabus, course outline	Nil	Copy of the Course Outline will be sent to the relevant authorities for perusal
1.8	Meet with the Dean, E.J.C and Department Chair of Education	Modifications are discussed and approved	Mid June, 2011	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Course Outline	$200 Bze	Corrected/ approved version of the course outline is mass produced for trainees. Materials for course are copied
2.1	Presentation of new course	Trainees are sensitized	January, 2012	Lecturer in the	Lecturer in the	Course Outlines,	Nil	Trainees are enthusiastic

	outline for the course	about changes to the syllabus and course outline		Associates Degree in Primary Education at Ecumenical junior College	Associates Degree in Primary Education at Ecumenical junior College	Pictures of Lesson Study in Japan		about the plan to improve teaching methods in Mathematics
2.2	Discussion of Japanese Lesson Study	Students develop interest in the new approach to teach mathematics	January, 2012	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Japanese Elementary School Textbooks, Resource books from Japan, CD, video and pictures	Nil	Trainees develop more interest in how to teach using the problem solving approach
2.3	Discuss what the Problem Solving Approach to Mathematical Teaching is	Trainees become aware of what this approach is and the significance of this approach	January, 2012	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Japanese Elementary School Textbooks, Resource books from Japan, CD, video and pictures	Nil	Trainees are interested in delving deeper into the problem solving approach

2.4	Reflect on mathematical teaching in Belize	Trainees reflect on the teaching style under which they were trained and current trend of mathematical teaching in Belize.	January, 2012	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Japanese Elementary School Textbooks, Resource books from Japan, CD, video and pictures	Nil	Trainees review Japanese Textbook and the Mathematics textbooks used in Belize and then compare and contrast them.
2.5	Hold session on "problem posing inside the mathematics classroom"	Trainees are sensitized about the importance of posing thought provoking questions of students	January, 2012	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Japanese Elementary School Textbooks, Resource books from Japan, CD, video , timetable, puzzles and pictures	$50.00 Bcy	Trainees are proficient in posing questions that are thought provoking
2.6	Hold session on "independent solving" of mathematics problem	Trainees become aware of variations of responses, methods and strategies to solve problems.	February, 2012	Lecturer in the Associates Degree in Primary Education at	Lecturer in the Associates Degree in Primary Education at Ecumenical	Japanese Elementary School Textbooks, Resource books from Japan, CD, video ,	Nil	Trainees now apply and accept independent solving in mathematics

		(inductive, deductive and analogical thinking)		Ecumenical junior College	junior College	timetable, puzzles, Caribbean Primary mathematics and pictures		
2.7	Have session on comparing and discussing problems and possible answers	Trainees become aware of a variation of methods to solve problem and apply them in their own problem solving	February, 2012	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Japanese Elementary School Textbooks, Resource books from Japan, CD, video , timetable, puzzles, Caribbean Primary mathematics	Nil	Trainees can identify various ways how to solve mathematical problems
2.8	Summarize mathematical thinking and the problem solving approach	Trainees become knowledgeable of how to summarize mathematical concepts	March, 2012	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Japanese Elementary School Textbooks, Resource books from Japan, CD, video , timetable, puzzles, Caribbean Primary	Nil	Trainees can explain what methods are applied and why certain results are achieved

						mathematics		
2.9	Application of the Problem Solving Approach to Mathematical teaching	Trainees will apply the problem solving approach in solving real life problems in mathematics	March, 2012	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Japanese Elementary School Textbooks, Resource books from Japan, CD, video , timetable, puzzles, Caribbean Primary mathematics	Nil	Trainees are comfortable applying the problem solving approach in teaching mathematics
2.10	Have practice exercise using the problem solving approach to mathematics	Trainees create their own problems, share ideas and solve their problems using the problem solving approach.	March, 2012	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Japanese Elementary School Textbooks, Resource books from Japan, CD, video , timetable, puzzles, Caribbean Primary mathematics, tape lines, circles, paper	Nil	Trainees are comfortable using the problem solving approach in mathematics

2.11	Adopt the problem solving approach in mathematics	Trainees demonstrate using the problem solving approach when teaching mathematics	April, 2012	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Japanese Elementary School Textbooks, Resource books from Japan, CD, video , timetable, puzzles, Caribbean Primary mathematics, tape lines, circles, paper	Nil	Trainees confidently demonstrate using the problem solving approach when teaching mathematics
2.12	Writing lesson plans for Mathematics class using the problem solving approach	Trainees can write lesson plans for mathematics class using the problem solving approach	Last week in April to Second Week in May, 2012	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Japanese Elementary School Textbooks, Resource books from Japan, CD, video , timetable, puzzles, Caribbean Primary mathematics, Sample lesson plans from Belize and Japan	Nil	Trainees are able to write good lesson plans which caters to the problem solving approach in mathematics

3 – 1	Identifying cooperating teachers to work with student teachers	Senior Teachers who are already trained are identified to work with and supervise student teachers who will be on the practicum exercise	June, 2012	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College and Head of Department, Education	Practicum Exercise Handbook of Procedures Ministry of Education, Handbook of Procedures and Policies	$100 Bcy	Cooperating Teachers are identified within the Stann Creek district to work with the student teachers
3 - 2	Training of Cooperating Teachers within the Stann Creek District	Cooperating teachers are sensitized about the Problem solving approach and its impact on education in Mathematics. They are also given workshops on applying problem solving strategies and lesson planning	July, 2012 (1 week)	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College	Japanese Elementary School Textbooks, Resource books from Japan, CD, video , timetable, puzzles, Caribbean Primary mathematics, Sample lesson plans from Belize and Japan	$5,000. Bcy	Cooperating teachers are given the relevant knowledge of applying and planning for the problem solving approach to teaching mathematics

3 – 3	Posting of Student Teachers to their individual schools/ cooperating teacher	Student teachers begin their field experience (practicum exercise)	September 2012,	Lecturer in the Associates Degree in Primary Education at Ecumenic al junior College	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College and Department Chair	Practicum Exercise Handbook of Procedures	$100 Bcy	Student teachers are practicing using the problem solving approach in Mathematical teaching as trained at Ecumenical Junior College.
3 - 4	Monitoring of student teachers as they teach inside the classroom	Student teachers receive feedback about their teaching, reflect on their teaching, is offered and makes recommend - ation for improvement and implement recommended changes	September, 2012	Lecturer in the Associates Degree in Primary Education at Ecumenic al junior College, Chair Education	Lecturer in the Associates Degree in Primary Education at Ecumenical junior College and Chair Education	Practicum Exercise Handbook of Procedures	$ 3,200 Bcy	Student teachers improve their teaching strategies for primary mathematics
3 - 5	Final Assessment	Student teachers are	December, 2012	Lecturer in the	Lecturer in the	Practicum Exercise	$200 Bcy	Student teachers are

	Exercise	graded as they demonstrate how they apply using the problem solving approach in mathematics		Associates Degree in Primary Education at Ecumenical junior College, Chair Education	Associates Degree in Primary Education at Ecumenical junior College, Chair Education	Handbook of Procedures		proficient in using the problem solving approach