

# Action Plan

## The Group Training Course on Improving Teaching Methods in Mathematics in Primary Education

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Title	Problem Solving Approach
Period	April, 2011 to November, 2011
Target Location	Education Collage
Target Group	Tutors in Mathematics Department

NARRATIVE SUMMARY
<b>OVERALL GOAL:</b> students in Education College will be able to teach lessons with problem solving approach
<b>SPECIFIC OBJECTIVES (PROJECT PURPOSE)</b> Teacher trainers can train their students using Problem Solving Approach
<b>YOUR LEARNING IN JAPAN</b>  1. Japanese Text Books  2. Japanese Mathematics Content for Elementary School  3. Problem Solving Approach

-Open-Ended Approach

- Hands on Approach

-Origami

4. Developing 3 ways of Thinking

5. Lesson Study

## **OUTPUTS (by applying our learning in Japan)**

### **Output 1**

Authorities of Principal agree to Project implementation

### **Output 2**

Teacher trainers can provide primary teacher trainees with problem solving approach

### **Output 3**

Teacher trainers can train the about open-ended approach

### **Output 4**

Teacher trainers can train the primary teacher trainees about hands on approach

### **Output 5**

Teacher trainers can train the primary teacher trainees about lesson study approach

### **Output 6**

Teacher trainers can develop 3 model lesson plans for Primary Mathematics

### **Output 7**

Introduce problem solving in the Primary Mathematics Education Units

## **ACTIVITIES**

**Output 1** Lesson Study preparation system is developed

**Activity 1.1** Assistant Lecturer prepares proposal for the principal authorities in Education Collage

**Output 2** Teacher Trainers can provide primary teacher trainees with problem solving approach

<b>Activity 2.1</b>	Prepare lecture notes on “problem solving approach”
<b>Activity 2.2</b>	Conduct lecture on “problem solving approach” with Teacher trainers
<b>Activity 2.3</b>	Conduct workshops on “problem solving approach” with Teacher trainers
<b>Output 3</b>	Teacher trainers can train the PTT about open ended approach
<b>Activity 3.1</b>	Prepare lecture notes on “open ended approach”
<b>Activity 3.2</b>	Conduct lecture on “open ended approach” with Teacher trainers
<b>Activity 3.2</b>	Conduct workshops on “open ended approach” with Teacher trainers
<b>Output 4</b>	Teacher trainers can train the PTT about hands on approach
<b>Activity 4.1</b>	Prepare lecture notes on “hands on approach”
<b>Activity 4.2</b>	Conduct lecture on “hands on approach” with Teacher trainers
<b>Activity 4.3</b>	Conduct workshops on “hands on approach” with Teacher trainers
<b>Output 5</b>	Teacher trainers can train the PTT about lesson study approach
<b>Activity 5.1</b>	Teacher trainers observe “lesson study videos” on problem solving
<b>Activity 5.2</b>	Assistant Lecturer prepares lecture notes for board preparation
<b>Activity 5.3</b>	Conduct workshop on board preparation
<b>Activity 5.4</b>	Assistant Lecturer 1 develops a lesson plan for lesson study
<b>Activity 5.5</b>	Assistant Lecturer 1 models the lesson study
<b>Output 6</b>	Teacher trainers can develop 3 model lesson plans for Primary Mathematics
<b>Activity 6.1</b>	Teacher trainers studies the class 5 mathematics curriculum
<b>Activity 6.2</b>	Teacher trainers selects one concept and prepares a lesson plan and resources
<b>Activity 6.3</b>	Teacher trainers implements lesson study 1 at the selected school
<b>Activity 6.4</b>	Teacher trainers and the teachers of the selected school discuss the presented lesson
<b>Activity 6.5</b>	Teacher trainers modifies the lesson study 1
<b>Activity 6.6</b>	Teacher trainers implements the modified lesson on concept 1

**Activity 6.7** Activities 5.4 to 5.8 is repeated for 2 more lesson study

**Output 7** Introduce lesson study in the Primary Mathematics Education Units

**Activity 7.1** Teacher trainers prepare course outline, course materials and assignments to accommodate problem solving approach

## Plan of Operation

Output	Activities	Expected Results	Time Schedule	Person in Charge	Implementers	Materials, equipments	Remarks
<b>Output 1</b>  Authorities of Principal agree to Project implementation	<b>Activity 1.1</b> Assistant Lecturer prepares proposal for the principal authorities in Education Collage	Principal agree to conduct the workshop in Education Collage	1 <sup>st</sup> week of April	Assistant Lecturer	Assistant Lecturer	Letters	
<b>Output 2</b>  Teacher trainers can provide primary teacher trainees with problem	<b>Activity 2.1</b> Prepare lecture notes on “problem solving approach”	Handouts and power point on problem solving approach	1 <sup>st</sup> week of May	Assistant Lecturer	Assistant Lecturer	-Handouts: -definition -why? -how? -egs from the Japanese text	

solving approach						book -examples form lesson study	
	<b>Activity 2.2</b> Conduct lecture on “problem solving approach” with PMEL	PMEL will become familiar with problem solving approach	2 <sup>nd</sup> week of May	Assistant Lecturer	Assistant Lecturer	-checklist for problem solving	
	<b>Activity 2.3</b> Conduct workshops on problem solving approach with PMEL	PMEL will be able to present concepts as problems to be solved	3 <sup>rd</sup> week of May	Assistant Lecturer	Assistant Lecturer	-compare concept from F text and the same concept from J text	
<b>Output 3</b> Teacher trainers can train the teacher trainees about	<b>Activity 3.1</b> Prepare lecture notes on “open ended approach”	Handouts and power point on open ended approach	4 <sup>th</sup> week of May	Assistant Lecturer	Assistant Lecturer	-definition -examples -why use open ended problems	

open-ended approach							
	<b>Activity 3.2</b> Conduct lecture on “open ended approach” with PMEL	PMEL will become familiar with open ended approach	1 <sup>st</sup> week of June	Assistant Lecturer	Assistant Lecturer		
	<b>Activity 3.3</b> Conduct workshops on “open ended approach” with PMEL	PMEL will be able to develop open ended problems	2 <sup>nd</sup> week of June	Assistant Lecturer	Assistant Lecturer	-which concepts from F text can be presented as open ended problems and why?	
<b>Output 4</b> Teacher trainers can train the primary teacher	<b>Activity 4.1</b> Prepare lecture notes on “hands on approach”	Handouts and power point on hands on approach	3 <sup>rd</sup> week of June	Assistant Lecturer	Assistant Lecturer	-definition -why? -examples from Japanese	

trainees about hands on approach						textbook -egs from J Lesson study	
	<b>Activity 4.2</b> Conduct lecture on “hands on approach” with PMEL	Teacher trainer will become familiar with hands on approach	4 <sup>th</sup> week of June	Assistant Lecturer	Assistant Lecturer		
	<b>Activity 4.3</b> Conduct workshops on “hands on approach” with PMEL	PMEL will develop skills of origami as an example of hands on approach	1 <sup>st</sup> week of July	Assistant Lecturer	Assistant Lecturer	-origami skills -identify concepts developed	
<b>Output 5</b> Teacher trainers can train the primary teacher	<b>Activity 5.1</b> PMEL observe “lesson study videos” on problem solving	Teacher trainer will become familiar with lesson study	2 <sup>nd</sup> week of July	Assistant Lecturer	Assistant Lecturer	-familiarize with lesson study cycle	



trainees about lesson study approach							
	<b>Activity 5.2</b> Assistant Lecturer prepares lecture notes for board preparation	Teacher Trainers will become aware of the board Organization	3 <sup>rd</sup> week of July	Assistant Lecturer	Assista nt Lecturer	Board organization	
	<b>Activity 5.3</b> Conduct workshop on board preparation	Workshop on board organization	4 <sup>th</sup> week of July	Assistant Lecturer	Assista nt Lecturer		
	<b>Activity 5.4</b> Assistant Lecturer develops a lesson plan for lesson study	Lesson plan for lesson study will be developed	1 <sup>st</sup> week of August	Assistant Lecturer	Assista nt Lecturer	Lesson using problem solving	
	<b>Activity 5.5</b> Assistant Lecturer	PMEL will	2 <sup>nd</sup> week of	Assistant	Assista		

	models the lesson study	experience lesson study	August	Lecturer	nt Lecturer		
<b>Output 6</b> Teacher trainers can develop 3 model lesson plans for Primary Mathematics	<b>Activity 6.1</b> Teacher Trainer studies the class 5 mathematics curriculum	-Class 5 text book analysis is completed	3 <sup>rd</sup> week of August	Assistant Lecturer	Teacher trainers	-how text books are written -sequencing of concepts and topics -provision for problem solving	
	<b>Activity 6.2</b> PMEL selects one concept and prepares a lesson plan and resources	-lesson plan 1 developed	4 <sup>th</sup> week of August	Assistant Lecturer	Teacher trainers	-problem solving check list	
	<b>Activity 6.3</b> Teacher Trainer	-Lesson study 1 implemented	1 <sup>st</sup> week of September	Assistant Lecturer	Teacher trainers	-problem solving check list	

	implements lesson study 1 at the selected school						
	<b>Activity 6.4</b> PMEL and the teachers of the selected school discuss the presented lesson	-strengths and weakness identified and suggestions given	2 <sup>nd</sup> week of September	Assistant Lecturer	Teacher trainers	-problem solving check list	
	<b>Activity 6.5</b> PMEL modifies the lesson study 1	-modified lesson plan 1	3 <sup>rd</sup> week of September	Teacher trainers	Teacher trainers		
	<b>Activity 6.6</b> PMEL implements the modified lesson on concept 1	-improved lesson study 1 implemented	4 <sup>th</sup> week of September	Teacher trainers	Teacher trainers	-improved lesson plan & resources	
	<b>Activity 6.7</b> Activities 5.4 to 5.8 is repeated for 2 more lesson study	-selection of 2 new concepts -2 pre-lesson study meetings	October	Teacher trainers	Teacher trainers		

		-2 lesson plans -2 lesson study -2 post lesson study meetings -2 improved lesson plans -2 improved lesson plan presentations					
<b>Output 7</b> Introduce problem solving in the Primary Mathematics Education Units	<b>Activity 7.1</b> Teacher trainers prepare course outline, course materials and assignments to accommodate problem solving approach	-modified course outline	November	Assistant Lecturer	Teacher trainers	-JICA Training materials	