

# Action Plan

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

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<b>Position</b>	(Senior) Lecturer 1 - Primary Mathematics Education
<b>Title</b>	Problem Solving Approach
<b>Period</b>	April 2011 to November 2011
<b>Target Location</b>	Fiji National University, Lautoka Campus
<b>Target Group</b>	Primary Mathematics Education Lecturers

# NARRATIVE SUMMARY

## OVERALL GOAL:

Primary mathematics teachers graduating from Fiji National University (FNU) will be able to teach primary mathematics using problem solving approach

## SPECIFIC OBJECTIVES (PROJECT PURPOSE)

Primary mathematics teacher trainers of FNU can train the PTT using Problem Solving Approach

## YOUR LEARNING IN JAPAN

1. Japanese Text Book
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 FNU agree to Project implementation

### Output 2

Primary mathematics education lecturers (PMEL) can provide primary teacher trainees (PTT) with problem solving approach

**Output 3**

PMEL can train the PTT about open ended approach

**Output 4**

PMEL can train the PTT about hands on approach

**Output 5**

PMEL can train the PTT about lesson study approach

**Output 6**

PMEL can develop 3 model lesson plans for Primary Mathematics

**Output 7**

Introduce problem solving in the Primary Mathematics Education Units

**ACTIVITIES**

**Output 1** Authorities of FNU agree to Project implementation

**Activity 1.1** Lecturer 1 prepares proposal for the FNU authorities for approval to train PMEL

**Activity 1.2** Lecturer 1 seeks permission from Ministry of Education (MOE) to conduct lesson study in one of the schools in Lautoka district

**Activity 1.3** Lecturer 1 seeks permission from the Head Teacher of the selected school

**Activity 1.4** Lecturer 1 conducts meeting with the PMEL and discusses the proposal

**Output 2** Primary mathematics education lecturers (PMEL) can provide primary teacher trainees (PTT) with problem solving approach

**Activity 2.1** Prepare lecture notes on “problem solving approach”

**Activity 2.2** Conduct lecture on “problem solving approach” with PMEL

<b>Activity 2.3</b>	Conduct workshops on “problem solving approach” with PMEL
<b>Output 3</b>	PMEL 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 PMEL
<b>Activity 3.3</b>	Conduct workshops on “open ended approach” with PMEL
<b>Output 4</b>	PMEL 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 PMEL
<b>Activity 4.3</b>	Conduct workshops on “hands on approach” with PMEL
<b>Output 5</b>	PMEL can train the PTT about “lesson study approach”
<b>Activity 5.1</b>	PMEL observe “lesson study videos” on problem solving
<b>Activity 5.2</b>	Lecturer 1 prepares lecture notes for board preparation
<b>Activity 5.3</b>	Conduct workshops on board preparation with PMEL
<b>Activity 5.4</b>	Lecturer 1 develops a lesson plan for lesson study
<b>Activity 5.5</b>	Lecturer 1 models the lesson study
<b>Output 6</b>	PMEL can develop 3 model lesson plans for Primary Mathematics
<b>Activity 6.1</b>	PMEL studies the class 5 mathematics curriculum
<b>Activity 6.2</b>	PMEL selects one concept and prepares a lesson plan and resources
<b>Activity 6.3</b>	PMEL 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

<b>Activity 6.5</b>	PMEL modifies the lesson study 1
<b>Activity 6.6</b>	PMEL implements the modified lesson on concept 1
<b>Activity 6.7</b>	Activities 6.2 to 6.6 is repeated for 2 more lesson study
<b>Output 7</b>	Introduce problem solving in the Primary Mathematics Education Units
<b>Activity 7.1</b>	PMEL 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 FNU agree to Project implementation	<b>Activity 1.1</b>  Lecturer 1 prepares proposal for the FNU authorities for approval to train PMEL	HOD, HOS, Dean and VC grants permission to train PMEL	1 <sup>st</sup> week of April	Lecturer 1	Lecturer 1	Letters	
	<b>Activity 1.2</b>	MOE grants permission to	1 <sup>st</sup> week of April	Lecturer 1	Lecturer 1	Letters	

	Lecturer 1 seeks permission from Ministry of Education (MOE) to conduct lesson study in one of the schools in Lautoka district	conduct proposed project					
	<b>Activity 1.3</b>  Lecturer 1 seeks permission from the Head Teacher of the selected school	Head Teacher approves the usage of school premises for lesson study	2 <sup>nd</sup> week of April	Lecturer 1	Lecturer 1	Letters	
	<b>Activity 1.4</b>  Lecturer 1 conducts meeting with the PMEL and discusses the proposal	PMELs are informed of the project	2 <sup>nd</sup> week of April	Lecturer 1	Lecturer 1	Agenda for meeting	
<b>Output 2</b> Primary mathematics education lecturers (PMEL) can provide primary teacher trainees (PTT)	<b>Activity 2.1</b>  Prepare lecture notes on “problem solving approach”	Handouts and power point on problem solving approach	3 <sup>rd</sup> week of April	Lecturer 1	Lecturer 1	-Handouts:  -definition  -why?  -how?  -egs from the	

with problem solving approach						Japanese text	
	<b>Activity 2.2</b> Conduct lecture on “problem solving approach” with PMEL	PMEL will become familiar with problem solving approach	4 <sup>th</sup> week of April	Lecturer 1	Lecturer 1	book -examples form lesson study -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	1 <sup>st</sup> week of May	Lecturer 1	Lecturer 1	-compare concept from Fj text and the same concept from Jp text	
<b>Output 3</b> PMEL can train the PTT about open ended approach	<b>Activity 3.1</b> Prepare lecture notes on “open ended approach”	Handouts and power point on open ended approach	2 <sup>nd</sup> week of May	Lecturer 1	Lecturer 1	-definition -egs -why use open	
	<b>Activity 3.2</b> Conduct lecture on “open	PMEL will become familiar with open ended	3 <sup>rd</sup> week of May	Lecturer 1	Lecturer 1	ended problems	

	ended approach” with PMEL	approach					
	<b>Activity 3.3</b> Conduct workshops on “open ended approach” with PMEL	PMEL will be able to  develop open ended  problems	4 <sup>th</sup> week of May	Lecturer 1	Lecturer 1	-some concepts  from Fj text  presented as  open ended  problems and  why?	
<b>Output 4</b> PMEL can train the PTT about hands on approach	<b>Activity 4.1</b> Prepare lecture notes on “hands on approach”	Handouts and power  point on hands on  approach	1 <sup>st</sup> week of June	Lecturer 1	Lecturer 1	-definition  -why?  -egs from Jp text	
	<b>Activity 4.2</b> Conduct lecture on “hands on approach” with PMEL	PMEL will become  familiar with hands on  approach	2 <sup>nd</sup> week of June	Lecturer 1	Lecturer 1	-egs from Jp  Lesson study	
	<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	3 <sup>rd</sup> week of June	Lecturer 1	Lecturer 1	-origami skills  -identify  concepts	



						developed	
<b>Output 5</b> PMEL can train the PTT about lesson study approach	<b>Activity 5.1</b> PMEL observe “lesson study videos” on problem solving	PMEL will become familiar with lesson study cycle	4 <sup>th</sup> week of June	Lecturer 1	Lecturer 1	-familiarize with the lesson study cycle	
	<b>Activity 5.2</b> Lecturer 1 prepares lecture notes for board preparation	PMEL will become aware of the board organisation	1 <sup>st</sup> week of July	Lecturer 1	Lecturer 1	-board organisation	
	<b>Activity 5.3</b> Conduct workshops on board preparation with PMEL	Workshop on board organisation	2 <sup>nd</sup> week of July	Lecturer 1	Lecturer 1		
	<b>Activity 5.4</b> Lecturer 1 develops a lesson plan for lesson study	Lesson plan for lesson study will be developed	3 <sup>rd</sup> week of July	Lecturer 1	Lecturer 1	Lesson plan using problem solving approach	
	<b>Activity 5.5</b> Lecturer 1 models the lesson study	PMEL will experience lesson study	4 <sup>th</sup> week of July	Lecturer 1	Lecturer 1	-problem solving model in the plan	
<b>Output 6</b> PMEL can develop 3 model	<b>Activity 6.1</b> PMEL studies the class 5 mathematics curriculum	-Class 5 text book analysis is completed	1 <sup>st</sup> week of August	Lecturer 1	PMELs	-how text books are written -sequencing of	

lesson plans for Primary Mathematics						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	2 <sup>nd</sup> week of August	Lecturer 1	PMELs	-problem solving check list  -Jp and Fj text books	
	<b>Activity 6.3</b> PMEL implements lesson study 1 at the selected school	-Lesson study 1 implemented	3 <sup>rd</sup> week of August	Lecturer 1	PMELs	-problem solving check list	
	<b>Activity 6.4</b> PMEL and the teachers of the selected school discuss the presented lesson	-strengths and weakness identified and suggestions given	3 <sup>rd</sup> week of August	Lecturer 1	PMELs	-problem solving check list	
	<b>Activity 6.5</b> PMEL modifies the lesson	-modified lesson plan 1	3 <sup>rd</sup> week of August	PMELs	PMELs	-problem solving	

	study 1					check list  -Jp and Fj text  books	
	<b>Activity 6.6</b> PMEL implements the modified lesson on concept 1	-improved lesson study 1 implemented	3 <sup>rd</sup> week of August	PMELs	PMELs	-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  -2 lesson plans  -2 lesson study  -2 post lesson study meetings  -2 improved lesson plans  -2 improved lesson plan presentations	1 <sup>st</sup> week of Sep to 4 <sup>th</sup> week of Sep	PMELs	PMELs		

<b>Output 7</b>	<b>Activity 7.1</b>	-modified course outline	1 <sup>st</sup> week of Oct to 4 <sup>th</sup> week of Oct	Lecturer 1	PMELs	-JICA Training materials	
Introduce problem solving in the Primary Mathematics Education Units	PMEL prepare course outline, course materials and assignments to accommodate problem solving approach						

