THE TECHNIQUE TEACHING IMPROVEMENT IN MATH AREA PROJECT "PROMETAM"

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This paper show the Technique Teaching Improvement in Math Area Project "PROMETAM" in Honduras that is established between the Japan Government, Education Secretary of Honduras and the UPNFM to solve the teaching quality problem of the Math Teachers.

I. BACKWARD

The Technique Teaching Improvement in Math Area Project "PROMETAM" began as a result to solve the teaching quality problem of Math teachers, because of the existing high rates of dropping off and failed students around the country.

Japan Government through Japan International Cooperation Agency (JICA) has been supporting the efforts concerning in education system that Honduras makes by means of teaching training for elementary teachers and with some Japanese volunteers support through Math Project that began to develop in 1989 on twelve states of the country (Lempira, El Paraíso, Choluteca, Valle, Francisco Morazán, Olancho, Comayagua, Cortés, Colón, Copán, Ocotepeque and Santa Bárbara) for more than twelve years. Such Project began with 58 Japanese teachers whom gave teaching training to 20,000 Honduran teachers, so it allowed finding very much information in this field, which we considered very important to contribute to Math developing in this country. In this opportunity it was considered this project reformation in three states: Ocotequepe, Colón, and El Paraíso into a new stage through "PROMETAM". This is a pilot experience, and according to the evaluation scores getting from it, some measures will be applied in order to improve the project and spread it out around the country. The selection of such states is a result from some meetings with Honduras Education Secretary, based on some data gotten from preliminary research, scoring and objectives analysis, experts, coordinators, and volunteers' advising and analysis of the geographical avail.

Lessons derived from the performance of the previous Math Project

a. The teaching training contents have not been applied in class, because most of the teachers have considered difficult to plan their classes applying their gotten knowledge during each subject teaching training.

New strategy: during the teaching training they will learn how to use the teacher's guide book and the student's work book into the classrooms, which were elaborated by grades in order to make the class developing most efficient.

b. The rewards for participating in not-formal teaching training organized by SE as well as its supervision have been very low.

New strategy: To use PFC's schema (Continuous Teaching Formation Program) of the UPNFM. What the Continuous Teaching Formation Program (PFC) is?

It is an educational program executed by Universidad Pedagógica Nacional Francisco Morazán, with a framework directed to increase teacher's academic level into a Licentiate Degree, so to improve the educational services quality by means of on going classes during weekends (Saturdays and Sundays) and intensive vocational school.

c. The monitory evaluation and on going process system has not been productive.

New Strategy: To systematize three (3) evaluation levels (evaluations about Math teaching, class quality and children's academic efficiency)

II. GENERAL INFORMATION

a General Aim

Decrease the amount of failed students because of their low academic score in Math during their first and second grades of basic education, especially in the rural area.

b Purpose of the Project

Improve Math teaching methodology during the firs and second grades of basic education.

c Component of the Project

i. Elaboration of Math teacher's guide book and Math student's work book for the first and second grades of basic education.
ii. Teaching training for teachers through Continuous Teaching Formation Program of Universidad Pedagógica Nacional Francisco Morazán.
iii. Elaboration and execution of the evaluating system about the teachers' teaching abilities, quality class, and children's basic output.

d Expecting goals

Raising of the teachers' scientist knowledge, methodology, and didactical level in Math teaching through the teachers' guide book, students' work book and basic level teaching training in the pilot states, and then to spread this effect out around the country, by means of FID (Teachers' Beginning Formation) and teaching training for teachers currently in service through INICE.

e Project term

Three years: From April 2003 to March 2006.

f Impact zone of the Project

Around the country, beginning a first step with the states of Colón, Ocotepeque, and El Paraíso in 2001, and spread it out to Comayagua and Valle in 2004.

PFC/PROMETAM currently has six pilot centers distributed as follow:

OCOTEPEQUE	1) NUEVA OCOTEPEQUE
COLON	2) SONAGUERA
EL PARAISO	3) DANLI
	4) GUINOPE
COMAYAGUA	5) LA LIBERTAD
VALLE	6) NACAOME

III. TEACHING MATERIAL DESIGN AND DEVELOPMENT

PROMETAM's Teaching Materials Design and Development Unit has elaborated the teachers' guide book and the students' work book for the first and second cycles of Basic Education (1st to 6th grade)

Because of the gotten experience during the previous Japan's Math Project, and the one currently acquired by PROMETAM such as in teach training as well as in the teaching designing materials for Math subject, we received a request letter from Honduras Education Secretary Minister, asking for the elaboration of the 1st and 2nd cycle according to the National Basic Curriculum in order to spread them out around the country since 2005, being this a benefit for students as well as for teachers.

Moreover, complementary exercises brochures have been elaborated for the second cycle (from 4th to 6th grade), such purpose is to use them for improving the Math learning.

a. First Cycle

Grade	Draft	Digital Data	Design	Final Draft
First Grade	End of June - End of July 2003	End of June - End of July 2003	End of June - End of July 2003	September 9, 2003
Second Grade	End of July – end of august 2003	End of July – end of august 2003	End of July – end of august 2003	September 24, 2003
Third Grade	End of August – Beginning of October 2003	End of August – Beginning of October 2003	End of August – Beginning of October 2003	September 29, 2003

b. Second Cycle

Grade	Draft	Digital Data	Design	Final Draft
Fifth Grade	February – May 2004	March – June 2004	March – June 2004	September – October 2004
Sixth Grade	June - July 2004	June – August 2004	July – August 2004	September – November 2004
Sixth Grade complement	August 2004	August – September 2004	August – September 2004	November 2004

c. First cycle (2nd Edition)

Grade	Draft	Digital Data	Design	Final Draft
First Grade	December 2004 – April 2005	December 2004 – April 2005	December 2004 – May 2005	April – May 2005
Second Grade	May – June 2005	May – July 2005	May – August 2005	August – September 2005

d. Validation of Educative Materials

For the validation of the elaborated teaching materials, we have Universidad Pedagógica Nacional Francisco Morazán's collaboration though Continuous Teaching Formation Program, authorized by Honduras Education Secretary, who is currently validating the 6th grade books.

The validation is made by the same teachers who are receiving the teaching training, such as Honduran instructors that are working with Continuous Teching Formation Program around the country, because they have been trained by PROMETAM's experts.

7,913 PFC's teachers currently in service with knowledge of the contents of the teachers' guide book and the students' work book for the 1st and 2nd cycle children, trained by PFC's instructors with knowledge in PROMETAM's methodology.

The total amount of students subscribed in the schools of all the centers who are working with the validation of all the teaching materials designed by PROMETAM if about 1,680.

The teaching materials designed are used during the teaching trainings. Each teacher gets his/her own teachers' guide and students' work books according to the amount of children they have, corresponding to the grade teaching training they receive. This allows us to make then the next step.

IV. TEACHING TRAINING

PFC/PROMETAM has directly trained to 240 Basic Education teachers currently in service through the teaching training conveyed as follow:

a. Teach training for teachers currently in service

Content	No of Participants	Place	Date	Instructor
Summary of the first cycle	236	PROMETAM centers	July 24 to November 6, 2004	Japanese volunteers
Math and its methodology for 4th grade	226	PROMETAM centers	December 6, 2004 to January 21, 2005	Japanese volunteers
Math and its methodology for 5th grade	226	PROMETAM centers	March 5 to June 28, 2005	Japanese volunteers
Math and its methodology for 6th grade	226	PROMETAM centers	July 23 to November 13, 2005	Japanese volunteers

*Each teacher gets her/his teachers' guide and students' work books according to the amount of children they have, corresponding to the grade teaching they have received.

b. First goals of the incorporation of PROMETAM to PFC

In February 2004; 214 teachers received their Bachelor Degree, corresponding to the centers of Trujillo and Sonaguera, Colón; Danlí and Güinope, El Paraíso.

c. Licentiate Degree in Basic Education

In August PFC/PROMETAM began to offer the licentiate level in Basic Education to the same teachers that got their Bachelor Degree during the previous two years, and moreover, the others that received their Bachelor Degree with other programs could apply for the Licentiate Degree too.

At the end of each teaching training, such Japanese volunteers as experts and Honduran counterpart among Departmental, Municipals Directors, region coordinators, the Continuous Teching Formation Program's centers, and the Mathematician expert from Honduras Education Secretary, will participate in the meeting "REFLECTING ABOUT THE TEACHING TRAINING IN MATH AREA" for the correspondent grade, with the purpose of analysing found problems such as the given solution, in order to get establishing some mechanisms of forestalment actions for the future teaching training.

V. CLASS EVALUATION AND ANALYSIS

a. The blanks designed to make the evaluation, allow us to know how the teacher is using the established time for Math teaching class.

"Academic Learning Timing"

The purpose of this method is to know what are the teachers and students doing. This analysis is developing during the class time, selecting three children who we identify as Kid A, kid B, and kid C besides the teacher that is teaching in that grade. 15 seconds are timed to watch the activities of each one, and so on, until the class is finished.

Three sheets of paper are used one for each of the selected kids, as it was previously explained, on which we evaluate how are they using the class time, and how long they are dedicating to make activities, such as: to copy from the board to the notebook, if they are listening faithfully or they are amused, if they are working or making some activities not related to the class, etc.

In order to have a concrete vision about the use of "Academic Learning Timing", we avail of an assistant sheet of paper to this method that allow us to compensate incomplete information and at the same time needed information.

And then the instructor or the supervisor writes in the blank space the corresponding number to the gotten score.

b. Qualitative analysis

i. Present class problems

The class problems that are ordinarily watching during the elementary level in Honduras show the following:

1. The teacher is not developing the planned class.
2. The teaching method is transitive
3. The teacher is not thinking why it would be so (he/she does not teach the reason)
4. the teacher almost does not use the text book or note book
5. the teacher does not take care of the children that are not working
6. A very low class management
7. There is any class evaluation
8. The teacher does not know how to use the designed teaching materials
9. An inadequate teaching work attitude

ii. The kind of teaching class expected by PROMETAM

It is not easy to invent some methods and develop them in order to solve the whole showed problems. It is not convenient to look for something ideal because of the real situation or certain cooperation limit. However, it will be reasonable to put some goals as the following, at less to improve the academic output, and to decrease the failing rates.

1. Teach the whole curriculum content
2. Do not teach mistakes
3. Use the methodology that can make the children think
4. Assure the children's learning activities, including the multigrade classes

In order to make these possible, the Project designs the teachers' guide book to develop the on going classes based on the unit and yearly class planning, as well as the students' work book, in order to make easier the kids' learning activities. Also, it executes the teaching and content of these educative materials, as well as to develop the class according to the teachers' guide book in the classroom.

As a goal, the Project expects the class as follow:

1. To develop the planned teaching class
2. Avoiding transitive teaching methods
3. Improve the teaching techniques
4. To execute the evaluation correctly

iii. Blanks for the analysis teaching class

Taking in consideration the class image that PROMETAM expects in order to analyse what kind of teaching class ins developing, they elaborate "Blanks for the teaching class analysis"

Designing of "Blanks for the teaching class analysis"

Interview before the class begins (5-10 minutes)… before the class begins the supervisor interviews to the teacher making some general questions about the class, such as: the aim of the class and its content, etc.

Analysis of the teaching class… during or after the class, about the supervised class, the supervisor answers 41 questions that are divided in six categories as "yes", "no", or "there is any sense"

iv. Table 2: Category of the questions

N°	Category	N° of questions
1	Use the methodology that can make the students think	15
2	Improve the teaching techniques	7
3	Assure the children's learning activities, including the multigrade classes	9
4	To execute the evaluation correctly	9
5	Do not teach mistakes	4
6	Develop the planned teaching class	4

Interview after class ends (5-10 minutes)… after the class ends the supervisor interviews too the teacher making some questions, mainly about the teachers' guide and students' work books.

Checking out the students' notebooks (5-10 minutes)… To check out three children's note books after the class ends.

VI. OTHER CONTRIBUTIONS OF PROMETAM TO HONDURAS SYSTEM EDUCATION

a. Developing teaching materials

Honduran counterpart by SE and UPNFM began on December 2004 the second edition of the designed teaching materials for the first cycle (1st – 3rd grade) besides the elaboration of the third cycle (7th – 9th grade)with the teaching support of PROMETAM's Japanese experts, if it is necessary.

i. Third Cycle

Grade	Digit data	Diagramming and design	Final draft	Last draft
Seventh grade	December 2004 – February 2005	December – May 2005	February – May 2005	April – May 2005
Eighth grade	July 2005	August – September 2005	September 2005	October 2005

ii. Complementary exercises for the students' work book

Grade	Date
4th grade	July – August 2004
5th grade	September 2004 – March 2005
6th grade	April – October 2005

iii. Teaching training

Also PROMETAM has given teaching training support to other programs

1. Teaching training for Instructors

Given to	Content	N° of participants	Place	Date	Instructor
a) Luis Landa	First cycle summary	15	INICE	May 27-29, 2004	Eiichi Kimura, Lic. and Ramón Rosa, Lic.
	Math and its methodology 5th grade	10	INICE	February 23 and 24, 2005	Eiichi Kimura, Lic.
b) PFC, FID, CIE and	Math and its methodology 4th grade	48	INICE	July 9-11, 2004	Eiichi Kimura, Lic.

Teaching schools-INICE	Math and its methodology 5th grade	30	INICE	December 3 and 4, 2004	Eiichi Kimura, Lic.
	Math and its methodology 6th grade	50	INICE	February 24-27, 2005	Eiichi Kimura, Lic.
	First cycle for the National Instructors	36	INICE	September 24-26, 2004	Eiichi Kimura, Lic.

* From November Thursday 13th to Sunday 16th , 2004, PROMETAM collaborated with a seminar about the Project development given to JICA's guest participants to the region area, such as Japan Corporation Officials as well as representatives from Honduras Education System (SE) and high schools from the following countries: United States of America, Jamaica, Guatemala, El Salvador, Chile, Colombia, Argentina, República Dominicana, Perú, México, Nicaragua and Honduras.

2. Teaching training to the National Team

Given to	**Content**	**N° of participants**	**Place**	**Date**	**Instructor**
National Teaching Training Team	Use of the teachers' guide and students' work books	54	INICE	September 24-26, 2004	Eiichi Kimura, Lic.

* This teaching training was coordinated by INICE, given by PROMETAM and directed by PFC's Instructors, Luis Landa Educative Program's and Teaching Schools', with the purpose that they could coordinate the teaching training for teachers in service around the country (departmental and municipal). The travel and food expenses were given by Luis Landa Program of Spain through which has been possible to train 18 departmental teaching training teams, that at all is a total sum of 780 teachers, who were received by 37 facilitators of the National Teaching Training Team, who at the same time will be responsible of the teaching training of the 100% of the teachers around the country.

3. Supporting to the departmental and municipal teaching training
4. Scholars sent to Japan to study

Send Scholars to Japan to study is the main duty of the Project, because there is a hope that people who were trained in Math act as a multiplier effect of these

knowledge around the country, and whom received training in the administrative area could help to improve the collaboration and coordination with PROMETAM, besides to facilitate the relationship between the Project and Honduran counterparts.

a. Educative Administration Group

N°	Charge	Institution
1	Departmental Director of Ocotepeque	Honduras Education Secretary
2	District Director of Danlí, El Paraíso	Honduras Education Secretary
3	PFC Centers Coordinator in Güinope, El Paraíso	UPNFM

b. Mathematics Group

N°	Charge	Institution
1	Math teachers	Escuela Normal Mixta Matilde Suazo Córdova Trujillo, Colón Honduras Education Secretary
2	Math teachers	Escuela Normal Mixta Litoral Tlántico Tela, Atlántida Honduras Education Secretary
3	Math teachers	Escuela Normal Mixta de Olancho Juticalpa, Olancho Honduras Education Secretary
4	Math teachers	Escuela Normal de Occidente La Esperanza, Intibucá Honduras Education Secretary
5	Math teachers	Escuela Normal Mixta Justicia y Libertad Gracias, Lempira Honduras Education Secretary
6	Math teachers	Escuela Normal Mixta España Danlí, El Paraíso Honduras Education Secretary
7	Math teachers	Escuela Normal Mixta Migual Ángel Chinchilla Nueva Ocotepeque, Ocotepeque Honduras Education Secretary
8	Math teachers	Centro de Investigación e Innovación Universidad Pedgógica Nacional Francisco Morazán Tegucigalpa, Francisco Morazán
9	Math teachers	Universidad Pedgógica Nacional Francisco Morazán Tegucigalpa, Francisco Morazán

N°	Charge	Institution
10	Math teachers	Universidad Pedgógica Nacional Francisco Morazán San Pedro Sula, Cortés

c. Teacher Training Group

N°	Charge	Institution
1	Coordinator of Continuous Teaching Formation Program (PFC)	UPNFM Tegucigalpa, Honduras
2	Executive Director of INICE	Honduras Education Secretary
3	Associated Center Principal La Esperanza, Intibucá	FID Associated Center La Esperanza, Intibucá Honduras Education Secretary

The date of the trip (go and return) of the previous three groups was from June 12th to July 26th, 2004

d. Seminar of International Collaboration

Date	Charge	Institution
November 13 – December 9, 2005	Sub-Secretary of Technical Pedagogical Subjects	Honduras Education Secretary

VII. ABREVIATION

SE / Secretaría de Educación

INICE / Instituto Nacional de Investigación y Capacitación Educativa

UPNFM / Universidad Pedagógica Nacional Francisco Morazán

PFC / Programa de Formación Continua

FID / Formación Inicial de Docentes

CIIE / Centro de Innovación e Investigación Educativa

CAI / Centros Asociados al INICE o Ex Normales

LUIS LANDA / Programa Educativo Luis Landa de España

PROMETAM / Proyecto Mejoramiento en la Enseñanza Técnica en el Area de Matemáticas

Updated on December 6th, 2005