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SEAMEO REGIONAL CENTER FOR EDUCATIONAL INNOVATION AND TECHNOLOGY (INNOTECH)

PROJECT IMPACT FOR MASS PRIMARY EDUCATION

PROGRESS REPORT NO. 4

JULY - DECEMBER 1975

PROJECT IMPACT FOR MASS PRIMARY EDUCATION
PROGRESS REPORT (JULY - DECEMBER 1975)

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FOREWORD

Amidst the difficulties owing to the confusion in Vietnem where the INNOTECH Centre is located, Project IMPACT, the major research undertaking of the Centre on the delivery of mass primary education, proceeded without interruption. Even its coordination from the Centre suffered no impediments. The INNOTECH Staff started to operate the activities in its temporary venue in Bangkok, Thailand on May 1, 1975. It can be recorded in INNOTECH's history that in so short a time it was replete with events which can be looked into with pride and relief. So many were greatly concerned-friends of INNOTECH and SEAMEO - and pioneers of INNOTECH in the persons of Dr. Robert Jacobs and Dr. Douglas Ellson came back to lend a hand and keep INNOTECH and its projects going.

IMPACT has gained for INNOTECH and SEAMEO a reputation for educational pioneering on a regional level - a collective determined effort.

INNOTECH is pleased to present this volume which records the progress of the IMPACT research exercise for the year 1975. May it serve to signify a region's effort at seeking solutions to common problems to improve the quality of human life.

To IDRC, interested and concerned indivituals, and to SEAMEO, this Report is dedicated.

ORLANDO B. CLAVERIA
INNOTECH Officer In Charge

PROJECT IMPACT

Progress Report: June to December 1975

INTRODUCTION

Description of IMPACT

Project IMPACT is a management system for mass delivery of primary education. As a system it has the following hypothetical characteristics which will be experimentally verified during the try-out period :

1. An Instructional Supervisor represents the only institutionally trained professional educator. The traditional teacher's role is eliminated, and the Instructional Supervisor acts as a manager of instruction providing the needed direction and organization in the use of a variety of learning resources. One Instructional Supervisor manages the instruction of as many as 200 primary students.

2. Community members with particular skills (carpentry, home making, agriculture, health, religion, etc.) are enlisted to provide specialized instruction. They are unpaid volunteers who have been recruited by the Instructional Supervisor on the basis of a survey of community resources in relation to educational needs.

3. Other community volunteers and other students who are primary school graduates, are trained by the Instructional Supervisor to conduct specific courses, i.e., beginning reading on a part time basis. Their training is very specific to the course they teach, and they probably function as programmed teachers. Some assist in the operation of the community learning center, including record keeping and evaluating student progress.

4. Older students are expected to assist younger students through tutorials and remedial instruction. They are unpaid.

5. Parents are trained to monitor the instructional activities of their own children and are expected to take responsibility for their children's progress. Students and parents jointly are self-directed in terms of student progress, age of beginning formal education and age of completion.

6. There are no particular age limits. Except for learning reading skills, students need not be encouraged to begin at an early age.

7. Education is modular, each learning module covering the amount of instruction that normally takes one to two weeks. Each module is designed for the learning of specific educational objectives and contains both a readiness test and a post test.

8. Many modules are in the form of individualized instructional packages. Students typically seek tutorial help from assigned older students whenever they experience difficulty.

9. Some learning modules are in the form of small group instruction under the direction of teacher's aides from the community. Others are tied to instructional radio programmes, small group exercises, etc.

10. Printed modular materials are reusable by other students as soon as they are completed by those who progress more rapidly.

11. There are very few set class periods. Students are able to drop out and reenter at any time.

12. Primary education is ungraded; progress is indicated by learning modules satisfactorily completed rather than by (grades) school levels .

13. All materials and records are maintained in the community learning center.

THE SITES

THE PHILIPPINES

Project IMPACT is tried out in five rural villages in Naga, Cebu, Philippines.

Naga is a southern town of Cebu which is twenty kilometers from the city. It can be reached within one-half hour's travel by car from Cebu City. It is a coastal town with a population of approximately 1,000 households.

The five barrios of Naalad, Pangdan, Lutac, Balirong, and Uling are along the west side of the town. These are in the hills along the Naga - Toledo provincial road. In terms of their distance from the town center, Naalad is two kilometers away; Pangdan, 5; Lutac, 8: Balirong, 11; and Uling, 14.

All these barrios are agricultural villages whose staple produce are tobacco, corn and bananas. However, the last site, Uling, does not only produce the above mentioned crops; it has very rich coal deposits which can provide the entire Cebu province with geothermal energy for no less than 15 years.

Statistics on the population and the average monthly income per family have the following approximate figures.

Barrio	Population	Monthly Income Per Family
Naalad	2,350	US$ 45
Pangdan	2,062	70
Lutac	1,456	15
Balirong	1,200	75
Uling	1,651	22

Judging by the people's established patterns of behavior, the villages are basically rural. Though rural, roughly 25% of the adult population are literat

The leadership positions in the villages are occupied by the barangay captain, the PTA president, and the school principal or head teacher. The barangay captain is the political leader of the community who is elected by adult members; the PTA president is elected by the parent members and holds office for one year; the school principal or head teacher is appointed by the Division Superintendent of Schools.

Enrolment Statistics for 1975-1976

The official lists of pupils enrolled in the IMPACT classes for 1975-1976 show the following figures :

Schools	Grades I	II	III	V	Total
Naalad	35	48	32	30	145
Pangdan	34	62	25	32	153
Lutac	33	42	16	28	119
Balirong	46	53	26	27	152
Uling	70	52	29	32	184
Total	218	257	129	149	753

A scrutiny of the list of pupils enrolled in the IMPACT Grade IV classes showed that a total of 46 pupils did not return for the current school year. Here is the breakdown :

Naalad	8
Pangdan	21
Lutac	4
Balirong	6
Uling	7
	46

The reasons for the non-return of those pupils in all the four barrios, except Pangdan, are :

(1) transfer of residence

(2) three of the girls have worked as household servants in the neighbouring towns

(3) health due to malnutrition

(4) poverty

But the high mortality rate in Pangdan was caused by the misinformation received by parents from Non-IMPACT teachers who told the parents that the slower pupils could not complete the primary level after three years in IMPACT because IMPACT stresses mastery learning. Upon the identification of this problem, the Research Staff launched a massive information campaign with the support of the office of the Regional Director of the Department of Education and Culture, the office of the Division Superintendent of Schools, the Department of Public Information; and the National Media Production Center. The campaign took advantage of meetings and dialogues with the entire teaching force in Naga Districts I and II, and the parents in the community; radio broadcast, television, and the printed media.

A total of 40 pupils out of 278 Levels 4 and 5 pupils are either dropouts who have returned to school or transferees from other schools. Here is the breakdown :

	Returning Dropouts		Transferees
	Grade IV	V	VI
Naalad	3	2	1
Pangdan	4	4	1
Lutac	1	1	0
Balirong	4	5	3
Uling	3	5	3
Total	15	17	8

Five of the 32 returning dropouts are adults who desire to complete the primary school and receive the certificate of completion. However, unlike the rest of IMPACT pupils, these adults come to the Learning Center only to get their modules and to take the post tests; they do not come regularly.

INDONESIA

The site of INNOTECH Solo Project Pamong (IMPACT) is in Solo (Surakarta), Central Java Province, Indonesia.

Java is one of the biggerislands in Indonesia, where the capital of Indonesia i.e. Jakarta is located.

Solo is a municipality, and formerly is a capital of Surakarta recidency. Solo is approximately one hour away by plane, or 12 hours away by train, from Jakarta.

Surakarta, together with Yogyakarta (the former capital of Indonesia during the independence revolution) are central of Javanese culture. In Solo there are Surakarta and Mangkunegaran palace. Solo is located at the Bengawan Solo (Solo River) bank.

The seven village schools of Kebakkramat are located in four villages i.e. Kebak (Kebak I and Kebak II Elementary schools), Alastuwo (Alastuwo I and Alastuwo II Elementary Schools), Malanggaten (Malanggaten I and Malanggaten II Elementary Schools) and Banjarharjo (Banjarharjo Elementary School)

These villages are approximately 15-17 km. from Solo, and accessible by car or motorcycle. The distance between villages is 2-3 kilometers from each other. These villages are located in the lowland plain near the Solo River bank.

The people, their occupation and the community resources

The villages chosen for Project Pamong are agricultural. The main occupation is farming, and the main crop is rice. Another crop is corn and sugarcane.

There are some home industries i.e. pantile, bamboo plaiting, and there is sugarcane factory in the neighbourhood.

Some local and religions institutions can be used as means of education or to improve education, i.e. "gotong-royong" (mutual assistance) spirit, the mosque, puppet play.

In the villages concerned there are some organizations which could help education changes, i.e. Boyscout Movement, Rovement, Rural Youth Organization (Kader Taruna Desa), Youth Serving Club (Sinoman), Listening Group, Institution For Rural Welfare (L.S.D.), etc.

Types of person in the villages concerned with special skills which can be mobilized for educations consist of farmers, artisans, carpenters, bricklayers, smiths, nurses.

There are educational programmes, i.e. agricultural education, health and family planning education, home economics.

The average number of population in these villages are 3,000 persons in each village. The average number of children in each family is 3-4 children.

School enrollment, number of teachers, school facilities and number of post primary students

Average school enrollment is 150 pupils/per school/per year. Average number of teachers in each school is 8 teachers, and average teacher - pupil ratio is 1:20.

Each school has its own school building although two of them use temporary school building.

Teaching - aids are very limited

The post primary students and primary student ratio in these villages is 1:7.

Some criteria which have been applied to the selection of the site of the project:

Those four villages were selected as the site of INNOTECH Solo Project Pamong (IMPACT) due to the consideration, that they are considered to fulfil the criteria used in chosing site i.e.

1. Is rural and typical of country
2. Has approximately 50 per cent (or less) of children currently receiving a primary education (or has a need to reduce educational costs)
3. Includes some 5-10 villages of different sizes within fairly close geographical proximity.
4. Contains a sizable proportion of children who do not speak the language of instruction (which typically is used beginning in the fourth grade.)
5. Has relatively easy access to the site of INNOTECH Center.
6. Exhibits a willingness of villages to participate in study.

Participants to the Pamong experiment

The table below indicated the participants involved in the Pamong (IMPACT) system experimentation during 1974 and 1975:

PARTICIPANTS INVOLVED IN THE
PAMONG SYSTEM EXPERIMENTATION, OCT. 1975.

Nr.	Participants	1974		1975	
		Involved	Prepared to be involved	Involved	Prepared to be involved
1.	Local Education Offials.	2	-	2	-
2.	Prim. Schools	7	-	7	-
3.	Schools Principals	7	-	7	-
4.	G r a d e	7	7	14	14
5.	Teacher	8	15	23	16
6.	P u p i l s	180	209	329	200
7.	Monitor	180	209	329	200
8.	T u t o r	60	129	174	78
9.	Vocational Teacher	-	3	3	-
	T o t a l	451	572	888	518

PROGRESS

PHILIPPINES

Module Development. The research design specifies that the modules to be used for Project IMPACT must be based on the existing curriculum prescribed by the Bureau of Elementary Education for public schools.

Using the continuums for the different subjects for Grade IV the subject specialists came up with an average of 50 modules per subject for one grade level, or a total of 350 modules for seven subjects. Based on these number of modules, the subject specialists were expected to complete the writing of Grade V modules and the revision of the tried out Grade IV modules by November 1975. From December 1975 to May, 1976 they were to complete the writing of the first semester Grade VI modules and the revision of the first semester Grade V modules.

However, an evaluation of the number of modules completed by Grade IV pupils from August 1974 to March 1975 showed that the fastest pupil completed only 126 modules; the slowest, 22, giving an average of 66.68 modules. When Dr. Daryl Nichols came for the evaluation in May the problem was given serious thought. If an average module took 3 to 5 hours of study, each child could finish only one module a day or a total of 185 modules for the entire school year; therefore, even the fastest learner could not finish 350 modules in a school year of only 185 school days. It was decided that the subject specialists go over the continuum from Levels 4 to 6 and find out what unnecessary repetitions could be dilated. It was further learned from the Instructional Supervisors that they could not really finish the content covered in each continuum when they were yet teaching in the traditional approach. This clinched the decision to weed out some "garbage" in the continuum.

The revision by each subject specialist came up with an average of 75 regular modules plus 15 block or review modules for each subject from Levels 4 to 6 or a total of 210 modules for Grade IV and 240 for Levels 5 and 6.

Since June 1975, the subject specialists for Levels 4, 5 and 6 have rewritten the Grade IV Modules except the block modules for Pilipino and Science, and have written the Grade V modules, except the block modules for Pilipino, Language, Science, Mathematics and Reading. Block modules cannot be written until the regular modules have been

approved by the Instructional Methods Expert. Writing of Grade VI modules is more than half-way of the targets for most subjects except Reading which has not yet been started.

Revision of modules have been based on feedback from the Instructional Supervisors, results of post tests, and on the subject specialists' own observation of the pupil's behavior during their visits to the Learning Centers. The subject specialists have found their visits more revealing of pupils' problems than the feedback of the IS's.

To achieve variety of activities for the learner and to prevent boredom, the subject specialists have used a number of strategies and approaches. Each strategy or approach is first presented to the learner in a practice module where the content is rather easy. Such strategies and approaches used include:

egrul - ruleg
algorithm
chain
Conceptual approach
Comic strip
interview
peer activity or socialized discussion
performance or experiment
frames

The setting of targets for the programmed lessons for Grades I and II in Language, Reading, Pilipino and Mathematics was also based on the existing continuum of the Bureau of Elementary Education. However, since the target at Levels 1 and 2 in Project IMPACT is to equip the learner with basic communication skills in the two second languages - English and Pilipino and with the basic numeracy skills, the content in Science and Health are integrated in Language and Reading, and the content in Social Studies, arts, and music are integrated in Pilipino.

The Preparation of programmed materials has been based on the principles of programmed teaching by Dr. Douglas Ellson and the principles in second language teaching. The lessons aim to develop listening, speaking, reading and writing skills strictly in that order.

The programmed materials include the syllabus programme and the lesson programme. The syllabus programme includes the sequenced

content or language skills; the lesson programme includes the item programme, the script, the game programme, and the test programme. The item programme gives the procedures for teaching; the script includes the sequenced presentation of a language skill or a numeracy skill to be developed in the learner. The script is usually translated on a cassette type by a voice model to provide the learners with a model which approximates the speech of the native speaker in the absence of live models in each Learning Center.

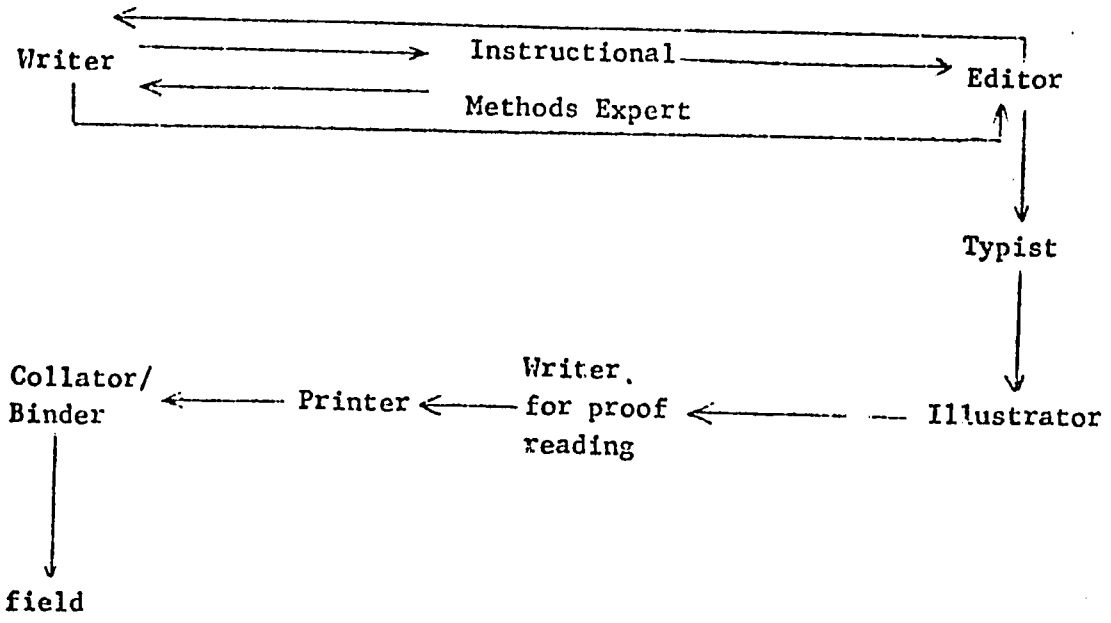
The following table shows the performance of the subject specialists in the production of modules:

Module Preparation

Subject	Target	Draft	Corrected	Edited	Cut on Stencils	Illtd.	Printed	Bound
Grade IV								
Pilipino	30	26	26	26	21	21	21	21
Language	31	31	20	20	16	16	16	16
Reading	30	30	18	18	15	15	15	15
Science	31	26	25	25	25	25	25	25
Social Studies	30	30	3 0	30	25	25	25	25
Math.	33	33	23	23	20	20	20	20
Applied Skills	32	32	27	27	16	16	16	16
Grade V								
Pilipino	30	27	17	11	11	11	11	11
Language	28	28	12	11	11	11	11	11
Reading	30	21	13	13	10	10	10	10
Science	32	26	11	9	9	9	9	9
Social Studies	30	30	20	20	20	20	20	20
Math.	30	26	13	13	13	13	13	13
Applied Skills	25	25	9	8	8	8	8	8
Home Economics	30	30	19	15	15	15	15	15
Grade VI								
Language	30	4						
Pilipino	30	7						
Science	29	17						
Home Economics	30	17						
Maths.	30	15						
Social Studies	30	10	6	6				
Applied Skills	30	7						

Subject	Target	Draft	Corrected Edited	Typed	Illtd.	Printed
Grade I						
Language	76	76	43	43	43	43
Reading	88	88	85	78	78	78
Language Pilipino	72	68	29	29	29	29
Reading Pilipino	62	62	28	26	26	26
Math.	86	57	21	21	21	21
Grade II						
Language	112	112	38	38	38	38
Reading	92	92	33	33	33	33
Language Pilipino	72	38	21	21	21	21
Reading Pilipino	62	38	12	12	12	12
Math.	102	60	13	13	13	13
Grade III						
Language	103	30				
Reading	120	20				

Here is the flow chart for module production:



Problems: A problem which has persisted to the present in module preparation has been the need to "tone down" the language of the module to the level of the learners. Some of the subject specialists have difficulty presenting the lessons in the pupils' vocabulary level.

Another problem the Staff has had in module production is the inadequacy of the manpower in the printing staff. The existing number of typists and graphic illustrators cannot cope with the learners' demands for new modules. If each child is expected to finish one module a day, each child needs seven modules in a given grade level a week. For Levels 4 and 5 alone, the consumers' end of modules requires 14 new modules each week. But the printing staff produces only seven to eight modules a week because that is the most that the illustrators can finish in a week's time. There is a need for one or two more illustrators to the printing Staff, in addition to the two full time artists now in the staff.

A problem in the preparation of programmed materials for Levels 1 and 2 is the lack of a recording room and the poor performance of the cassettes. From June to September, the voice models used the recording room of a local radio station; however, the room has been fully

utilized by the station lately. The cassettes which were purchased within the limits of the budget, are of a cheaper quality. Their performance is rather poor and the voice model is hardly audible to the pupils.

A fourth problem is the inability of the Reading Specialist for Levels 4 and 6 to meet with the targets for production. Assistance has been offered by the Staff but the performance rate, as can be seen in the table of module production, has lagged very much behind in spite of everything.

The Learning Management System. As designed, non-teacher instruction in IMPACT takes two forms: modularized instruction and programmed teaching. The first which is used for Levels 4 and 5 pupils includes self-instruction and peer learning. Programmed teaching is used with beginners in Levels 1 and 2.

The Management Plan for Phase II describes the basic features of these two forms of instruction:

Programmed teaching for beginners in the language and computational skills is handled by professionally trained teachers. The purpose of research at this level is to tryout different strategies for programmed teaching. Then in September elder pupils are given orientation to programmed teaching; the orientation continues until December. In January, the elder pupils take over as programmed teachers with the supervision of the teachers.

Modularized instruction is both self-instruction and peer learning. Children are self-directed in their day to day activities and they are steered by the specific instructional objectives for the particular module. Each child signs a contract with his IS. Contracts are signed every Friday afternoon with the guidance of the IS. Pupils who finish their contract before the succeeding Friday are given additional modules plus an incentive card. Incentive cards of various point-equivalents are given to pupils for completing their contracts on time, or at least not more than two days after the target date.

Programmed teaching has been in progress for more than five months now. The script is presented to the pupils on tape to insure that the language patterns are heard from a correct model. The teacher who acts as programmed teacher follows the script step by step from beginning to end without deviating from it. A lot of visuals

accompany the script.

Elder pupils from Levels 4 and 5 started their orientation in September. They have been given a difinite schedule during the day when they report to the Levels 1 and 2 teachers for orientation. They have been using the guide how to Conduct Programmed Lessons which was prepared by the Instructional Methods Expert. Besides they have been taught how to manipulate the cassettes.

Modularized instruction among Levels 4 and 5 pupils has progressed more systematically this year than last year. The reasons are: (1) the pupils, especially Level 5 pupils, have got used to the system and have been fully oriented, (2) most of the IS's have internalized their most basic functions, although they may lapse unconsciously into their old ways. High school students from the secondary schools in the community have been scheduled to report to the Learning Center one full day each month. All subjects for Levels 4 and 5 have been fully modularized, and even physical education, music, and arts which have not been translated into modules are taken care of during the 10 to 15 minutes break, after each full hour of self-instruction or peer learning.

When the child gets to the Learning Center, he signs up for an activity in the Sign-up Notebook. With the teacher assisting him whenever necessary, he starts the activity which may be either self-study, peer group activity, seeking assistance from a turor or IS, or taking a post test. As soon as he successfully completes on activity he signs up again for another activity. The Sign-up Notebook enables the IS to identify the activities chosen by the pupils and to follow them up if they are really engaged in what they decided to do for the day.

Most of the pupils take home a module for home study and usually they take the post test for that module first thing the following day. However, the IS does not administer the post test to anyone unless she is sure that the child has shown mastery of the objective. She does this by asking the child questions on the module. Post tests are administered to individual pupils. Passing a post test deserves an incentive card.

The following is a record of the pupils' progress in their modules as of October 17, 1975.

Level I

Enrolment: 197

Subject	No. of Modules	No. of Pupils	Percentage	Start of Instruction	Date of Assessment
Language	1	3	1.5	Oct. 13	Oct. 17
	2	2	1.0		
	3	2	1.5		
	4	1	.5		
	5	2	1.0		
	6	9	4.5		
	7	16	8.1		
	8	15	7.6		
	9	22	11.1		
	10	42	21.3		
	11	24	12.1		
	12	28	14.2		
	13	3	1.5		
	14	27	13.7		
Reading	12	2	1.0	Oct. 13	Oct. 17
	17	1	.5		
	19	2	1.0		
	21	1	.5		
	22	1	.5		
	23	5	2.5		
	24	2	1.0		
	25	10	5.0		
	26	1	.5		
	27	5	2.5		
	28	3	1.5		
	29	14	7.0		
	30	26	13.1		
	31	2	1.0		
	32	28	14.2		
	33	31	15.7		
	34	1	.5		
	35	6	3.0		
	36	13	16.7		
	37	33	16.7		
	38	9	4.5		
Pilipino Language	3	2	1.0	Oct. 13	Oct. 17
	4	1	.5		
	5	2	1.0		
	6	28	14.2		

Subject	No. of Modules	No. of Pupils	Percentage	Start of Instruction	Date of Assessment
Pilipino Language (cont'd)	7	28	14.2		
	8	2	1.0		
	9	11	5.5		
	10	45	22.8		
	11	75	38.0		
		31	15.7		
Pilipino Reading	7	1	.5	Oct. 13	Oct. 17
	18	1	.5		
	20	8	4.0		
	21	6	3.0		
	22	13	6.5		
	23	17	8.6		
	24	83	42.1		
Mathematics	1	3	1.5	Oct. 13	Oct. 17
	4	1	.5		
	7	7	3.5		
	8	13	6.5		
	9	11	5.5		
	10	4	2.0		
	11	9	4.5		
	12	50	25.3		
	13	65	32.9		
	14	34	17.2		

Level II

Enrolment: 229

Subject	No. of Modules	No. of Pupils	Percentage	Start of Instruction	Date of Assessment
Lanugage	5	6	2.6		
	6	7	3.0		
	7	27	11.7		
	8	2	.8	Oct. 13	Oct. 17
	9	1	.4		
	10	41	17.9		
	17	60	26.2		
	18	7	3.0		
	19	40	17.4		
	20	38	16.5		

Subject	No. of Modules	No. of Pupils	Percentage	Start of Instruction	Date of Assessment
Reading	26	1	.4		
	29	16	6.9		
	30	27	11.7		
	35	3	1.3		
	36	44	19.2		
	37	18	7.8		
	38	49	21.3		
	39	4	1.7		
	40	31	13.5		
	41	1	.4	Oct. 13	Oct. 17
	42	35	15.2		
Pilipino Language	4	6	2.6		
	5	3	1.3		
	6	9	3.9		
	7	19	8.2		
	8	1	.4		
	10	6	2.6		
	11	14	6.1		
	12	37	16.1		
	13	213	58.8		
Pilipino Reading	21	1	.5	Oct. 13	Oct. 17
	22	3	1.3		
	23	3	1.3		
	24	50	21.8		
	25	103	44.9		
	26	69	30.1		
Mathematics	13	1	.4	Oct. 13	Oct. 17
	14	1	.4		
	15	4	1.7		
	16	54	23.5		
	17	38	16.5		
	18	8	3.4		
	19	24	10.4		
	20	99	43.2		
		Levels 4 & 5			
Language	1	1	.4	Oct. 13	Oct. 17
	2	0	0		

Subject	No. of Modules	No. of Pupils	Percentage	Start of Instruction	Date of Assessment
Language (cont'd)	3	6	2.6		
	4	10	4.4		
	5	7	3.1		
	6	19	8.4		
	7	5	2.2		
	8	6	2.6		
	9	10	4.4		
	10	16	7.1		
	11	12	5.3		
	12	30	13.3		
	13	13	5.7		
	14	3	1.3		
	15	6	2.6		
	16	11	4.8		
	17	1	.4		
	18	4	1.7		
	19	7	3.1		
	20	6	2.6		
	21	4	1.7		
	22	4	1.7		
	23	3	1.3		
	24	4	1.7		
	25	5	2.2		
	26	6	2.6		
	27	1	.4		
	28	0	0		
	29	7	3.1		
	30	4	1.7		
	31	1	.4		
	32	1	.4		
	33	5	2.2		
	34	3	1.3		
	35	1	.4		
	36	0	0		
	37	2	.8		
	38	1	.4		
	39	11	4.8		
	40	19	8.4		
Reading	1	27	10.5	Oct. 13	Oct. 17
	2	15	6.6		

Subject	No. of Modules	No. of Pupils	Percentage	Start of Instruction	Date of Assessment
Reading (cont'd)	3	31	13.7		
	4	14	6.2		
	5	13	5.7		
	6	12	5.3		
	7	3	1.3		
	8	8	3.5		
	9	9	4.0		
	10	21	9.3	Oct. 13	Oct. 17
	11	3	1.3		
	12	4	1.7		
	13	3	1.3		
	14	2	.8		
	15	3	1.3		
	16	2	.8		
	17	2	.8		
	18	2	.8		
	19	5	2.2		
	20	8	3.5		
	21	1	.4		
	22	3	1.3		
	23	7	3.1		
	24	2	.8		
	25	4	1.7		
	26	1	.4		
	27	2	.8		
	28	1	.4		
	29	3	1.3		
	30	9	4.0		
	31	14	6.2		
	32	21	9.3		
Pilipino	1	13	5.7	Oct. 13	Oct. 17
	2	11	4.8		
	3	5	2.2		
	4	10	4.4		
	5	3	1.3		
	6	14	6.2		
	7	9	4.0		
	8	16	7.1		
	9	10	4.4		

Subject	No. of Modules	No. of Pupils	Percentage	Start of Instruction	Date of Assessment
Pilipino (cont'd)	10	12	5.3		
	11	6	2.6		
	12	8	3.5		
	13	0	0		
	14	0	0		
	15	2	.8		
	16	4	1.7		
	17	7	3.1		
	18	6	2.6		
	19	11	4.8		
	20	4	1.7		
	21	8	3.5		
	22	8	3.5		
	23	7	3.1		
	24	4	1.7		
	25	3	1.3		
	26	3	1.3		
	27	3	1.7		
	28	2	.8		
	29	5	2.2		
	30	4	1.7		
	31	2	.8		
	32	5	2.2		
	33	8	3.5		
	34	2	.8		
	35	3	1.3		
	36	6	2.6		
	37	30	13.3		
Science	1	9	4.0	Oct. 13	Oct. 17
	2	1	.4		
	3	3	1.3		
	4	15	6.6		
	5	9	4.0		
	6	12	5.3		
	7	6	2.6		
	8	4	1.7		
	9	3	1.3		
	10	7	3.1		
	11	19	8.4		
	12	21	9.3		

Subject	No. of Modules	No. of Pupils	Percentage	Start of Instruction	Date of Assessment
Science (cont'd)	15	7	3.1		
	16	16	7.1		
	17	10	4.4		
	18	3	1.3		
	19	6	2.6		
	20	3	1.3		
	21	5	2.2		
	22	6	2.6		
	23	1	.4		
	24	1	.4		
	25	6	2.6		
	26	5	2.2		
	27	9	4.0		
	28	1	.4		
	29	8	3.5		
	30	7	3.1		
	31	20	8.8		
	32	29	12.8		
	33	3	1.3		
Social Studies	1	2	.8	Oct. 13	Oct. 17
	2	20	8.8		
	3	12	5.3		
	4	11	4.8		
	5	24	10.6		
	6	21	9.3		
	7	23	10.2		
	8	1	.4		
	9	1	.4		
	10	3	1.3		
	11	4	1.7		
	13	1	.4		
	14	1	.4		
	15	7	3.1		
	16	3	1.3		
	17	6	2.6		
	18	4	1.7		
	19	2	.8		
	20	8	3.5		
	21	5	2.2		
	22	5	2.2		

Subject	No. of Modules	No. of Pupils	Percentage	Start of Instruction	Date of Assessment
Social Studies (cont'd)	23	6	2.6	Oct. 13	Oct. 17
	24	5	2.2		
	25	4	1.7		
	26	9	4.0		
	27	5	2.2		
	28	6	2.6		
	29	3	1.3		
	30	4	1.7		
	31	2	.8		
	32	4	1.7		
	33	1	.4		
	34	3	1.3		
	35	2	.8		
	36	7	3.1		
	38	3	1.3		
	41	3	1.3		
	42	2	.8		
	43	3	1.3		
	47	1	.4		
	48	1	.4		
	50	5	2.2		
	53	12	5.3		
Mathematics	1	2	.8	Oct. 13	Oct. 17
	2	2	.8		
	3	7	3.1		
	4	22	9.7		
	5	19	8.4		
	6	10	4.4		
	7	3	1.3		
	8	1	.4		
	9	7	3.1		
	10	9	4.0		
	11	13	5.7		
	12	12	5.3		
	13	6	2.6		
	14	5	2.2		
	15	4	1.7		
	16	15	6.6		
	17	12	5.3		
	18	9	4.0		

Subject	No. of Modules	No. of Pupils	Percentage	Start of Instruction	Date of Assessment
Mathematics (cont'd)	19	2	.8		
	20	6	2.6		
	21	5	2.2		
	22	6	2.6		
	23	8	3.5		
	24	5	2.2		
	25	1	.4		
	26	3	1.3		
	27	5	2.2		
	28	1	.4		
	29	7	3.1		
	30	3	1.3		
	31	3	1.3		
	32	4	1.7		
	33	5	2.2		
	34	3	1.3		
	35	5	2.2		
	36	3	1.3		
	37	2	.8		
	38	2	.8		
	39	1	.4		
	40	2	.8		
	41	2	.8		
	43	2	.8		
	44	1	.4		
	45	3	1.3		
	46	3	1.3	Oct. 13	Oct. 15
Applied Skills	1	4	1.7		
	2	12	5.3		
	3	8	3.5		
	4	18	8.0		
	5	9	4.0		
	6	18	8.0		
	7	20	8.8		
	8	18	8.0		
	9	2	.8		
	10	2	.8		
	11	4	1.7		
	12	1	.4		
	13	1	.4		

Subject	No. of Modules	No. of Pupils	Percentage	Start of Instruction	Date of Assessment
Applied Skills (cont'd)	15	6	2.6		
	16	10	4.4		
	17	13	5.7		
	18	7	3.1		
	19	4	1.7		
	20	2	.8		
	21	10	4.4		
	22	9	4.0		
	23	5	2.2		
	24	6	2.6		
	25	4	1.7		
	26	2	.8		
	27	9	4.0		
	28	5	2.2		
	29	2	.8		
	30	3	1.3		
	31	4	1.7		
	32	6	2.6		
	33	4	1.7		
	34	11	4.8		
	35	2	.8		
	36	6	2.6		
	37	7	3.1		
	38	1	.4		
Home Economics	: Enrolment	: 41 Girls		Oct. 13	Oct. 17
	1	3	7.3		
	2	4	9.7		
	3	5	12.1		
	5	2	4.8		
	6	2	4.8		
	7	1	2.4		
	8	1	2.4		
	9	5	12.1		
	10	9	21.9		
	11	8	19.5		
	12	1	2.4		

Comparing the pupils' achievement with the target for their level this school year, the following percentages of the pupils of one level have gone through such percentage of the target:

Level 1:	% of fastest Pupils	% of Achievement
Language	13.7 %	18 %
Reading	17.0	43
Pilipino Language	15.7	15.3
Pilipino Reading	42.0	40.0
Math.	17.2	16
Level II		
Language	16.5	21
Reading	15.2	25
Pilipino Language	58.8	9
Pilipino Reading	30.1	20
Mathematics	43.2	10
Levels 4 and 5		
Language	8.4	69
Reading	9.3	50
Pilipino	13.3	61
Science	14.1	53
Social Studies	10.4	70
Math.	10.0	55
jApplied Skills	10.0	60
Home Economics	23.9	40

To provide the baseline for each pupil in all the subjects for Levels 4 and 5, pre-tests were administered to all the IMPACT pupils; and to serve as basis for comparision of the effectiveness and efficiency of instruction, the same pre-tests were administered to Levels 4 and 5 pupils in three Non-IMPACT Schools which have similar socio-economic conditions as the IMPACT schools are. The tests were administered before regular classes started in June 1975.

A number of problems have been met in the implementation of modularized instruction and programmed teaching:

1. Non-readers - For the Levels 4 and 5 pupils to go through modular instruction, they have to achieve proficiency in reading in the

language of instruction. But an assessment of the problem of non-readers on July 11 showed that a total of 86 pupils or 37.7% of the total population of Levels 4 and 5 had reading problems. The staff and the IS's then decided to adopt the following measures: (a) a definite time must be scheduled daily to provide these pupils remedial lessons, (b) the staff must request for the assistance of the guidance teacher in each school to assist the IS's in the remedial reading lessons, (c) the mini-modules which were used the previous terms were to be used for remediation.

On July 23-25, the Reading Specialist for Levels 1 and 2 administered a reading test to these 86 pupils individually. The test included pre-requisite recognition skills and recognition skills. The test results showed that 44 pupils did not have visual recognition skills. It was then dicided to do the following: (a) the Reading Specialist would prepare programmed lessons on visual recognition (b) these pupils would be given the lessons for beginners in both Language and Reading, (c) the parents of these pupils must be appraised of the problem so that they would not expect their children to be at the same level as their classmates, (d) the Reading Specialist demonstrated to the IS's for Levels 4 and 5 how to carry on remedial reading, (e) the Staff requested for one Peace Corps volunteer who could assist the specialists in the preparation of remedial reading lessons.

Another assessment made on September 8, 1975 showed that a total of 19 pupils are still going through the remediation reading program using Level 1 and 2 Reading materials while 30 pupils were using Level 3 reading materials.

On the second half of October the Peace Corps Office in Cebu responded to the request by sending one volunteer who has had college training in remedial reading. However, the volunteer feels that she is not ready to begin work at once without first familiarizing herself with the nature of the pupils' reading problems. So that at this time of writing she is still observing the pupils.

3. Out of the over-all total of 753 pupils, 66 pupils or 9% are quite irregular in attendance at the Learning Center. Inquiry into the causes of their prolonged absence from their learning activities revealed the following causes: (a) the children assist their parents at home or on the farm (b) a few children are sickly due to

malnutrition, (c) about 50% of the 66 are plain truants. Parents expressed anger upon being informed of their children's absences. The staff has sent the parents copies of the Presidential Decree which punishes truancy among school children by sending them to reformatory schools.

3. Inability of the Production Staff to meet the pupils' demands for new modules.

4. Mishandling of modules - a few pupils in Pangdan and Balirong have been very careless with the modules. They tore some of the modules apart. The IS's have been requested to instruct the pupils on the proper use and care of learning materials and facilities.

5. Poor performance of the cassettes and the tapes for the lessons for Levels 1 and 2.

Programmed Teachers. One of the characteristics of Project IMPACT as a Management system is use of the community volunteers and elder students who have attained primary education, as programmed teacher they are to receive specifies training to teach a course.

The management Plan for Phase II specifics that from June to December 1975, the professional teachers carry out the role of programmed teachers. The purpose at this stage is to find out what strategies for programmed teaching work out well in the teaching of Communication skills in two second languages - English and Pilipino - and of the basic computational skills. In September of the same year pupils of Levels 4 and 5 are given orientation to their role as programmed teacher. The take over of elder pupils as programmed teachers is scheduled in January 1976.

Consequently, the subject specialists for Levels 1 and 2 and the Instructional Methods Expert worked out the model of the Programmed Teacher's Role.

How to Conduct Programmed Lessons

1. Study syllabus program and lesson programs (teaching programs, viz, item programs, game programs.)
   - Consult I.S. on any vagueness or difficulty met or anticipated.

2. Study script while listening to taped lesson (module) and simulate the teaching learning situation using specified materials and visual aids and following specific instructions in the script (dry run).
   - Consult I.S. about any vagueness in instructions or difficulties met or anticipated.

3. Take post-test; self-evaluate performance based on:
   - criteria for accuracy of discrimination and/or production of sounds and structures in language (English or Pilipino).
   - written post-tests to measure mastery of skill or concept in other subject areas (Reading, Math).

4. Report to I.S. for assignment to the group of pupils with whom programmed lesson will be conducted.

5. Conduct programmed lesson (module) according to specific instructions and using all the materials and visual aids prepared for each module.

   a. If less than 80% master the lesson, repeat taped lesson (as often as necessary).

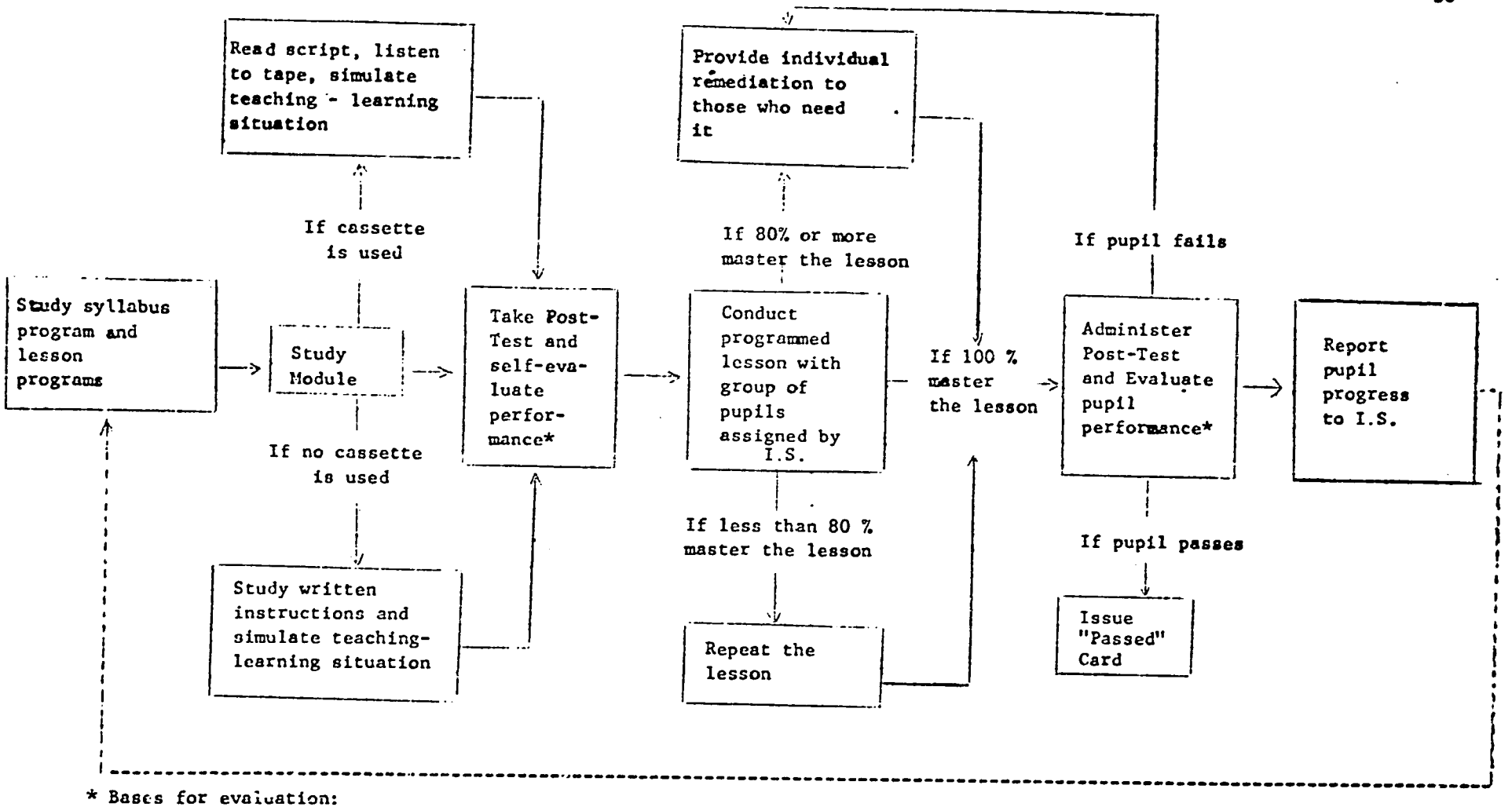
   b. If 80% or more master the lesson, give post-test to those who are ready and provide individual remediation to those who have not mastered the lesson.

6. Administer the post-test/tutor pupils in need of individual remediation.

7. Record pupil performance and report pupil progress to I.S.

8. Repeat the cycle with the next module.

IMPACT TENTATIVE (HYPOTHETICAL) MODEL OF PROGRAMMED TEACHER'S ROLE



* Bases for evaluation:

1. For discrimination, reading, and oral language skills: Use criteria specified for the module.
2. For concept, numeracy, and other skills: Use written post-tests or worksheets.

For the whole month in June when classes were on, the subject specialists sat in the classes one day each week to identify the assistance needed by the teachers. The observations were always followed with conferences with the Senior Staff and the writers. The programmed writers also conducted demonstration teachings using the pupils in their schools.

On the last week of August the Senior Staff discussed the mechanics of the orientation of the elder pupils with the professional programmed teachers. Orientation for these elder pupils in Level 4 and 5 was begun on the first week of September. The pupils report to the Levels 1 and 2 teachers one full hour each day for orientation sessions. The session consists in the discussion of the procedure for programmed teaching using a real programmed lesson as device for illustration. The pupils are also taught how to handle the tapes and the cassettes, as well as the visual and real objects as teaching devices.

The major problem reported by the teachers is the elder pupils' lack of proficiency, in the oral and written aspects of English and Pilipino. Only 33% of the Levels 4 and 5 pupils are found capable of carrying out the role of the programmed teacher. This would mean coming up to a ratio of one programmed teacher to 15 or 20 pupils which could be an unwieldy group to manage by an elder pupil.

With this model the Senior Staff provided orientation to the teachers for Levels 1 and 2 during the two-month vacation in April and May. The teachers were also taught how to manipulate the cassettes. In the last two weeks in May, they went through the programmed lessons prepared by the writers and brainstormed on how the lesson could be better presented.

<u>System of Incentives and Rewards for Pupils</u>. After a brainstorming session with the IS's and the subject specialists, the Project Staff adopted the following system of incentives for pupils and tutors:

A. In Pupils of Levels 1 and 2 :

In passing the post test on the first take : red card
In passing the post test on the second take : blue card
In passing the post test on the third take : yellow card
In passing the post test on the fourth take : pink card

B. In Levels 4 and 5 Pupils :

Completion of contract before schedule : red card
Completion of contract on Schedule : blue card
Completion of contract a day after schedule : yellow card
Completion of contract two days after schedule : pink card
In passing a module post test on first take : red card
No absence during the month : orange card

Red is 10 points; blue is 8; yellow is 6; and pink is 4. Orange is also 10 points. These cards can be exchanged for commodities at the rummage sale during the IMPACT festival.

C. Use of comics:

Completion of a contract before schedule : 3 comics
Completion of a contract on time : 2 comics
Completion of contract 2 days after schedule : 1 comics

D. Any child who finishes four contracts on schedule in succession is given a star opposite his name in the Contract Progress Chart.

E. Completion of a module post test entitles a child to a drawing poster or a puzzle. Another chart shows the number of puzzles or drawing completed by each child.

The Tutorial System. High school students and literate adults in the community who have done tutorial work at school and at home, respectively, since the first year of Project IMPACT, continue with the practice. In addition, some high school students and some community volunteers act as Learning Center aides to assist the IS in record keeping. They are unpaid. Arrangements are to be made by the staff with the principals of the three high schools to enable at least one high school student to stay at the Learning Center for one full day each month. The IS keeps a record of the students' attendance at the Learning Center as basis for the certification of their community services rendered.

Prior to the opening of classes in June, Dr. Aurelio Tiro requested the principals of the three secondary schools in Naga to attend a meeting with the Project Director, presided over by himself. The Project Director discussed the need for high school students at the Learning Centers and offered suggestions on how the students may be scheduled at the different Learning Centers. The three principals agreed to the request and promised to provide the Project Staff with the list of tutors as soon as enrolment would be finalized.

As soon as classes in the high schools were in full swing during the last week of June, the Education Analyst conferred with the teacher advisers in the three high schools and secured the lists of students which he used as basis for the schedule of tutors. On the first week of July, the Rural Education Coordinator conducted the Tutor orientation for the high school students. The tutors started reporting to the Learning Centers on the second week of July. The second orientation for these tutors was conducted by the Rural Coordinator from October 15 to 17.

As requested by the Staff, the tutors stayed at the Learning Centers for one full day and assisted the IS's either in remediation and/or in record keeping. Also, during the first few weeks of classes, the Local Steering committee of each barrio assigned parents as teacher aides at the Learning Center.

However, the parents who used to report to the Learning Centers stopped coming because they had to attend to their survival needs. These are also days when no tutor reports to the Learning Centers. There are usually the rainy days or the testing days for these high school pupils.

The IS's conducted a survey of how many Levels 4 and 5 pupils receive tutorial help from their parents or elders at home every evening. The survey was conducted from October 13 to 17. The results show that 67% of the pupils receive tutorial assistance from their parents. The survey did not include Levels 1 and 2 pupils because they hardly get homework assignments.

The Instructional Supervisor. In Project IMPACT, the Instructional Supervisor is the only professionally trained educator. He acts as the manager of instruction providing direction and the organization in the use of a variety of learning resources. One instructional supervisor manages as many as 200 primary pupils.

As outlined in the Management Plan for Phase II, the IS's role includes the following :

a. Record Keeping such as the Group Progress Chart, the Contract Progress Chart, the Individual Progress Chart, the Monthly Report Card, the try-out forms for subject specialists' feedback on the modules.

b. Remediation activities with the assistance of tutors.

c. Small group enrichment activities.

d. Monitoring and managing pupil's self-instructional activities.

e. Enlisting the cooperation of parents and other community members at the Learning Center.

f. Keeping custody of all facilities at the Learning Center.

g. Administering post tests and block post tests with the assistance of Learning Center aides.

h. Keeping the specialists informed of the pupils' problems with the modules and programmed materials.

The IS's weekly reports of activities and the weekly evaluation meetings with the IS's have indicated that they have tried to come up to their expected role. However, there are instances that they lapse into their old ways or that they forget to carry out their role. This is explained by the fact that the IS's need some time yet to fully internalize their role and that they need assistance from the staff. Consequently, the staff has undertaken the following measures for the IS's assistance:

a. providing them with readings on the role of the teachers in the non-graded school and taking up these readings during the weekly evaluation meetings. The IS's are invited to actively participate in the discussion after the readings.

b. giving them the two - month orientation workshop prior to the opening of classes. The IS did some readings, prepared instructional devices, and assisted the Staff in the preparation of the Management Plan. They participated in brainstorming sessions on the management system.

c. providing them with weekly action plan which is based on the problems presented by the Education Analyst, the Rural Education Coordinator and the IS's themselves. The plan consists of objectives, suggested activities, and evaluation technique. The objectives are formulated on the basis of the problems identified during the preceding week; the proposed activities are based on the Management Plan; and the evaluation technique is criterion-referenced. It measures the attainment of the objectives or non-attainment of the same.

The current pupil-teacher ratio in Levels 4 and 5 is on the average of 56 to 1 which is still far from the target ratio of 200 to 1.

Community Resources

Parents Role. The hypothetical description of the role of the parents specifies that parents are expected to take responsibility of their children's progress and to monitor the day-to-day activities of their children.

To enable the parents to carry out the above functions it is necessary to expose them to an on-going parent education program. Consequently, since the start of the second year of IMPACT, the Project Staff have held three meetings with parents, purposely to keep the parents abreast with the development of the project and of their expanded role.

The meetings were scheduled thus :

First meeting with Local Steering Committee	: June 2 - 6
Second meeting with all parents	: June 18 - 22
Third meeting	: August 18 - 24
Fourth meeting	: September 15 - 18

In all these meetings, the following major topics were repeatedly presented :

1. The role of the parents in
   a. encouraging their children to study
   b. encouraging them to report to the Learning Center
   c. informing the IS's of the pupils' absence from the class
   d. visiting the Learning Center for conference with the IS whenever requested.
   e. attending parent education sessions.

2. Parents ' assistance in the physical improvement of the Learning Center and the construction of the Learning Kiosks.

3. The need for some parents who are knowledgeable on certain topics concerning world events, and/or who possess certain skills which can be shared with the learners.

4. The purpose and contents of the monthly report card.

5. The school's system of incentives and records.

6. Presidential Decrees which define the role of parents towards their children.

7. The meaning of self-pacing and mastery learning in IMPACT Management System.

The extent with which parents have come up to their expected role can be gauged from the following:

1. An average of 65% of the parents attend the monthly meetings.

2. A very small percentage of parents go to the Learning Center to inquire about the progress of their pupils.

3. A recent survey of the pupils to determine how many of them get assistance on their modules from their parents has come up with these data :

Barrio	No. of Pupils Levels 4-5	No. with Parent Tutors	Percentage
Naalad	57	48	84%
Pangdan	52	27	51%
Balirong	44	32	72%
Uling	55	47	85%
Lutac	45	18	40%
Average Percentage			67%

On the other hand, there have been reports of approximately 5 pupils about the negative attitude of their parents towards their attending school. As far as these few parents are concerned, their children must be harnessed on the farm or at home rather than be sent to school. Attempts by the staff to meet with such parents failed because the same parents refuse to come for a conference.

Other Community Resources. One of the characteristics of IMPACT is the use of community members who have particular skills to provide specialized instruction to the pupils. They are unpaid volunteers who have been recruited by the IS's on the basis of a survey of community resources in relation to educational needs.

Immediately after classes were fully organized on the last week of June, the IS's undertook a survey of the different forms of community resources available in each community. The results of the survey have been compiled in index cards at each Learning Center. The resources included materials; persons; professional, social and civic organizations; and environmental resources such as rivers, hills, valleys, and domestic animals.

The modules in Applied Skills often direct the learner to approach a member of the community to help him evaluate his performance on a given project. The modules in Social Studies direct the learners to interview the Boy Scout leader; a health officer; a policeman; any person who is knowledgeable on the Miss Universe Beauty contest, the Olympics, the new constitution, marriage customs, burial customs and folk songs; a "balikbayan" within the barrio or town; and a few skilled workers. The first pupils to conduct the interview are advised to tape record the entire proceedings so that those pupils who get to the module later may just use the tape; the rationale here is to save the resource person from the trouble of being interviewed on the same topic several times.

Besides these resources availed of by the pupils in connection with their lessons, some institutions and organizations have shared their resources for the putting up of the Learning Centers. These are :-

1. The Naga School Board which have appropriated ₱ 13,000 from their funds for the renovation of the Learning Centers and the construction of open book shelves;

2. The USIS - Cebu donated 5 complete sets of Home Encyclopedia, 5 sets of World Atlass and 5 sets of paperbacks for the 5 Learning Cneters.

3. Radio Station DYRC offered the use of their recording room for the IMPACT voice models for four months, free.

4. The Local Steering Committees of the 5 Schools undertook the construction of the Learning Kiosks as well as shouldered the expenses incurred in the same.

5. The University of San Carls and Colegio de San Jose - Recoletos have sent several college students to render community service at the office and at the production center. The assistance of these university students have gone a long way towards helping the staff in the preparation of modules, pictures, charts and flash cards. They have helped in collating modules, coloring pictures, printing charts and flash cards.

The Community Learning Center. The community Learning Center becomes the hub of IMPACT as a management system. All activities start at the Learning Center and pupils as well as adult members of the community look to the Learning Center as a source of learning materials, facilities and equipment.

As defined in the Management Plan for Phase II the Learning Center must have the following components to meet the needs at this stage of Project IMPACT.

1. rooms for programmed teaching and tutorials
2. space for storage of cassettes and equipment
3. loose boards, chalk and eraser
4. programmed teaching materials such as tapes, cassettes, pictures, scripts, and flash cards
5. student records and progress charts
6. space for individual study
7. space for peer learning
8. play ground
9. supplies, materials, equipment, modules, objects, facilities for Science and tools for Applied Skills.
10. 3-4 benches for post test activities.

Since the start of classes in June, the CLC of Project IMPACT basically consists of the main CLC, two adjacent classrooms, and 5 to 6 Learning Kiosks. The main CLC has a floor area of two classrooms whose partition has been knocked down. This area is divided into sub-areas such as the Multi-Purpose Area, the Library and Materials Area, the Display Area for all subjects, the Testing Area and a Study Area.

The two adjacent classrooms are utilized for programmed teaching for Level 1 and 2. The 5 or 6 Learning Kiosks serve the pupils' needs for peer-learning or self-study. These kiosks are small huts which could shelter 4 to 5 pupils. These are made of locally available materials and are artistically put up mushroom-style.

Each Learning Center is equipped with three units of cassettes and the necessary tapes that contain all the lessons for Level 1 and 2. All material facilities and equipment are stocked at the main CLC. Each CLC has ample playground for pupils' play activities. The rest of the school site has been utilized as gardens for their Applied Skills models. The Post Test Area has 4 to 5 benches and the Multipurpose Area has one big table and some benches around it.

And inventory of loose boards at each CLC has these figures :

	Naalad	Pangdan	Lutac	Balirong	Uling
No. of loose boards with stands	2	2	4	4	2
No. of loose boards without stands	2	2	4	4	2

All modules, pictures, devices, charts, posters, flash cards, answer sheets, post tests and records are neatly filed in the Library and Materials area. The Display Area is sub-divided into the Social Studies corner, the Science Corner, the Arts and Music Corner, the Applied Skills corner, the Mathematics corner, and the Language and Reading Corner.

To further motivate the IS's and the community in the expansion and improvement of the CLC, the staff initiated the Learning Center Contests. The Criteria for the contest were announced in August but the final judging was held on September 30, 1975. The criteria are as follows.

1. Efficiency and Effectiveness of Organization which result in economy of time and effort.

2. Adequacy of visual devices.

3. Organization of Learning Center lends to conduciveness to pupil learning.

4. Provisions for pupil safety.

5. Evidence of community involvement in setting up the physical needs of the Learning Center.

It was decided that there should be no first, second, and third prizes; rather each Learning Center is given first prize on the basis of which criterion is more pronounced in there. The rationale is to avoid discontent amount the community members who showed unexpected enthusiasm in their participati on.

The CLC is not yet perfect but it has really taken a big step forward and is very much different from what it was when it was set up in December 1974.

It should be mentioned here that the Local Steering Committees of the five barrios initiated the Learning Kiosk contest among the different "puroks" in their barrios. A purok consists of a number of families who live close to each other in the community.

IMPACT Visitors for Phase II

1.	Dr. Vitaliano Bernardino	- SEAMES, Bangkok	July 15-16, 1975
2.	Hon. Sec. Juan Manuel	- DEC Manila	July 19, 1975
3.	Miss Marjorie Wheatley	- USAID Washington	September 15, 1975
4.	Dr. Robert Jacobs	- Consultant, INNOTECH Bangkok	September 15-16, 1975
5.	Dr. Eleanor Elegquin Mrs. Eva Kalaw and party	- UP, Dilimon	September 1975
6.	Mr. & Mrs. Peter Sellers	- Royal Commission on Australian Government	September 29, 1975
7.	Dr. Robert Smail	- RED Bangkok	October 27-28, 1975

INDONESIA

Module development. The prototype Grades IV, V and VI modules have these features :

..... Overview
..... Guide to how to learn
..... Objective
..... Core information
..... Exercises
..... Feedback
..... Repetition of substance
..... Self evaluation
..... Summary

The above are built into every "chunk". A cluster of chunks compose a module. A cluster of modules compose a block. There is a test for every module, and so is the block module. "PAMONG" developed the so called "practice module" to make the children familiar with the models of modularized instruction. There are about 21 models. There are also called "exercise modules".

The other unit is grade I - II - III. PAMONG is training the new task force in the preparation of materials and in implementing programmed teaching.

The modular instruction is based on the 1968 curriculum. However, the Government made revisions to the existing curriculum and Pamong plans to adjust the existing modular instruction to the new curriculum by revising it at an appropriate time.

The modular instruction is in

1) Bahasa Indonesia (Indonesian language)
2) Bahasa Java (Javanese)
3) Mathematics
4) Science
5) Social studies
   .. geography
   .. civics
   .. history
6) Applied skills
   .. farming
   .. poultry
   .. handicraft

Physical education, Art, and Religion, though part of the modularized instruction are not written in module form. These subjects shall promote the development of desired social behavior.

Try-out of the workability of Modules. Using the reports submitted by the teachers on the first test of each modular/block post-test, the workability of the modules could be evaluated. Based on the criterion of 60/60, the workability of the modules in Tri nester I/1975 are presented in Table I.

TABLE : I

TABLE OF UNWORKABLE MODULES

TRIMESTER : I/1975.

Subject		No. of Mod		Unworkable modules	
		Gr.IV	Gr.V	Grade : IV	Grade : V
1. Bahasa Indonesia		14	10	-- = 0	-- = 0
2. Bahasa Jawa		3	3	Module No.I=1	Module No.I-1
3. Mathematics		11	12	-- = 0	Module No.I,II III = 3
4. Science		7	6	Module No.I, IV, V = 3	Module No. I, II = 2
5. Social Studies	Geography	4	4	-- = 0	-- = 0
	Civics	4	4	-- = 0	Module No.II=1
	History	6	6	Module No. IV = 1	Module No. V = 1
6.Applied Skills	Home Ec.	5	4	Module No. II = 1	-- = 0
	Farming	6	3	-- = 0	-- = 0
	Poultry/ Fishery	0	2	-- = 0	-- = 0
	Handi-craft	2	2	-- = 0	-- = 0
Total		62	59	6 = 9,7%	8 = 13,5%

As indicated by the table, there is only one module for Grade IV and V (1,6% and 1,7% respectively) core to be revised. The rest need only minor revisions.

TABLE II

MODULES IN TRI MESTER II/1975 TO BE REVISED

No.	Subjects		Number of Modules		Unworkable Modules	
			Gr. IV	Gr. V	Gr. IV	Gr. V
1.	Bahasa Indonesia		6	7	0 = 0%	0 = 0%
2.	Bahasa Jawa		3	3	0 = 0%	1 =33,3% No. IV
3.	Mathematics		13	15-10	7 =53,8%	1 = 6,7% No.XIV
4.	Science		9	7	7 =77,8%	0 = 0%
5.	Social Studies	Geography	4	4	0 = 0%	0 = 0%
		Civics	4	4	0 = 0%	0 = 0%
		History	5	9	0 = 0%	0 = 0%
6.	Applied Skills	Home Economics	5	5	0 = 0%	0 = 0%
		Farming	2	3	0 = 0%	0 = 0%
		Poultry/Fishery	2	2	1 =50% No.III	0 = 0%
		Handicraft	3	2	0 = 0%	0 = 0%

Science and Mathematics used "Branching Programmed Learning" modules in Tri mester II/1975, were considered to be difficult to understand. This may have contributed to the high rate of unworkability of these Modules. Further preparatory steps are to be undertaken next year to make sure that the pupils understand the learning procedure in the 'Frog' Modules.

Production. The modules available in the project of PAMONG are

1) Modules for grade IV trimester 1 and 3
2) Modules for grade V trimester 1, 2 and 3
3) Modules for grade VI trimester 1

Revision to modules grade IV trimester 3 is manifested as errata which being inserted between pages. The technic to revise modules is going to be developed, particularly for grade IV and V trimester 1.

It seems that the capacity to produce modules cannot cope up with pupils' needs; it is caused by our limited budget for supplies. There is a need to set aside more funds for the production of the need for modules.

Due to the fact that program on grade I to III is still in preparation, it seems necessary to report the preparation itself here, to have some estimates on production.

The preparation include:

1) Training in Programmed Teaching.
   In providing the materials for programmed teaching in I - III programs, Dr. Ellson (a delivery system expert) visits Solo to assist PAMONG staff in training of a Task Force assigned to design Programmed Teaching materials.

2) The development of a plan to impliment the IMPACT system in grade I to III. The complete plan can be seen in Part III.

Testing. In the modular instruction (in the PAMONG system) the children are tested at the first stage by self evaluation which are built into the chunk. Further, after the completion of a module they take module post test, and at the last stage the block post test. For purposes of certification a national test is conducted by the Ministry of Education. Pamong pupils take the national test.

Learning Management System.

a. Pupil progress in modularized instruction.

1. The following facts were disclosed in our studies:

   1.1 Children, in general, like modular learning. No evidence of boredom had been identified. On the contrary, they have been trying harder to learn more.

1.2 Among the variety of modules, 'text plus pictures and questions' - "Goat" Modules seem to be the favorite as they apparently are easy to learn.

1.3 Most pupils do not like the following modules:

1.3.1 Composition - 'Cat' - Modules; they do not like these modules because writing/composition is not easy.

1.3.2 Branching Programmed Learning - 'Frog' - Modules; the learning procedures are difficult to follow.

1.3.3 Thick modules containing too many materials; these are considered to be boring.

Note: 'True-False' tests are not conducted because it stimulates some sort of 'gambling' or by chance' strategy among pupils.

2. The local education officer, principals and project teachers have been actively participating in the conduct of modular learning. Correcting final module test and checking the workability of modules are time-consuming yet enthusiastically accomplished by them. Since Trisemester III/1975, however, when tutors were beginning to be actively involved in the modular learning, those jobs were done by them.

3. There were only 10% of the modules which were not taught, and only 5% of the total pupils who were unable to complete the modules wiich they were supposed to complete. The situation in Trisemester 11/1975 are presented in the following table:

4. The tables that follows will show modules to be taught and the realisation. (see table I)

TABLE I

MODULES TO BE TAUGHT AND THE REALISATION IN TRIMESTER II/1975.

No.	Subjects		Modules to be taught		Realisation	
			Gr.IV	Gr.V	Gr.IV	Gr.V
1.	Bahasa Indonesia		6	7	6 = 100%	7 = 100%
2.	Bahasa Jawa		3	3	3 = 100%	3 = 100%
3.	Mathematics		13	15	13 = 100%	10 = 100%
4.	Science		9	7	9 = 100%	7 = 100%
5.	Social Studies	Geography	4	4	4 = 100%	4 = 100%
		Civics	4	4	4 = 100%	4 = 100%
		History	5	9	5 = 100%	9 = 100%
6.	Applied Skills	Home Economics	5	5	5 = 100%	5 = 100%
		Farming	2	3	2 = 100%	3 = 100%
		Poultry/ Fishery	2	2	2 = 100%	2 = 100%
		Handicraft	3	2	3 = 100%	2 = 100%

Note :

It is clearly indicated that all modules but mathematics were completed. Module construction for Grade V - in mathematics - was not completed due to the magnitude of material to be modularized.

5. Pupils' learning activities

The following reports on "Self Paced" and "The Comparison of Pupils' Leraning Achievements Among The Project and Non-Project Schools" are expected to set some light on the pupils' learning activities.

5.1 Self Paced

As indicated in Table IV, self-paced system could not yet be implemented fully due to time schedules which have not been relaxed by the school officials.

TABLE IV

THE PACE OF BRIGHT AND SLOW PUPILS

REPORT	Grade IV		Grade V	
	Maximum No.of Modules	Minimum No. of Mod.	Maximum No.of Mod.	Minimum No.of Mod.
I	1	0	1	0
II	3	0	3	0
III	3	0	3	0
IV	2	0	3	0
V	3	0	4	0
VI	2	0	2	0
VII	3	0	3	0
VIII	3	0	2	0
Average	2,6	0	2,7	0

These situation could probably be attributed to the following facts :

5.1.1 Module construction and production could not catch up with the existing demands, so that bright pupils have to slowdown their pace.

5.1.2 The delay of remediation for slow pupils by their teachers and tutors.

5.1.3 The local education officer gives some final tests at the end of each Tri mester, so that bright pupils have to decelerate their pace to get prepared for the tests.

5.1.4 We are tied up with the present traditional curriculum, so that the pupils could not go 'self-paced' as stimulated by our self instructional method.

5.2 The Comparison on Pupils' Learning Achievements Among The Project and Non-Project Schools.

5.2.1 We have 7 Project Schools with self instructional method, and 7 Non-Project Schools with traditional Method. They started at the same period using the same curriculum content.

5.2.2 The results of The Pupils' Learning Achievements at the end of Tri mester I/1975 and II/1975 are presented in Table IV.

TABLE: IV

ACHIEVEMENT BEFORE AND AFTER THE FORMAL TRY-OUT

Before formal try out	After formal try - out	
	Block Post Test achievement.	SOT achievement
Grade III 1974: Exp. Schools = Non-Exp. Schools.	Grade IV 1975: (Tr. I) Exp. Schools Non-Exp. Schools > Tr. II Exp. Sch.> Non-Exp. Sch.	Grade IV 1975: (Tr. I) Exp. Schools Non-Exp. Schools > Tr. Exp. Sch. > Non-Exp. Sch.
Grade IV 1974: Exp. Schools = Non-Exp. Schools.	Grade V 1975: (Tr. I) Exp. Schools Non-Exp. Schools Tr. II Exp. Schools > Non-Exp. Sch.	Grade V 1975: (Tr. I) Exp. Schools = Non-Exp. Schools Tr. II Exp. Sch. > Non-Exp. Sch.

Note:

It is clearly shown that Project schools achieve at least the same level of achievements, or even higher, than those using traditional method of instruction. The following tables present the analysis in each Grade and Tri mester.

TABLE: V

DISTRIBUTION OF DIFFERENCE FREQUENCY OF B.P.T. SCORE
BETWEEN EXPERIMENT AND NON-EXPERIMENT SCHOOLS
GRADE IV/1975

(AFTER FORMAL TRY-OUT)

	EXP. SCHOOLS (A)	MEAN OF EACH SUBJECT:				
		B.Ind.	Math.	IPA (science)	Kec. Khs. (applied skill)	IPS (social science)
1.	Kebak. II	92,5	82,2	-	-	-
2.	Kebak. III	81	-	74,2	90,9	98,8
3.	Malanggaten I 80/79,6	83,4	-	-	-	72,6
4.	Malanggaten II 78,3/80,4	80,6	-	-	-	77,8
5.	Alastuwo I	85,2	-	68,6	-	-
6.	Alastuwo II	74,7	-	-	-	-
7.	Banjarharjo	97,8	-	-	87,8	-
	Mean Total	85	82,2	71,4	87,8	75,2

	NON - EXP. SCHOOL (B)	MEAN OF EACH SUBJECT:				
		B.Ind.	Math.	IPA (science)	Kec. Khs. (applied skill)	IPS (social science)
	Nangsri I	57,6	50,6	52,1	55,6	56,4
	Nangsri II	48,3	51,1	54,8	49,2	54,7
	Kemiri I	57,6	49,3	56,6	51,4	52,3
	Kemiri II	58	63	57	59	62
	W a r u I		No Report			
	W a r u II		No Report			
	Kebak. I	58,8	46	42,8	56,4	46
	Mean Total	56,1	52	52,7	54,3	54,3

MA = 80,32 MB = 53,88

MA > MB

t_o = 9,34

t 1% 1% = 4,604

$t_t > t_t$

Temporary conclusion: There are significantdifferences
Experiment schools achieve higher scotes thar
Non - experiment schools.

Note : BPT stands for Block Post Test.

TABLE VI. B..

THE COMPARISON OF S.O.T. *SCORES BETWEEN EXPERIMENT A
NON EXPERIMENT SCHOOLS, GRADE V, TRIMESTER : II / 1975

Nr.	Exp. Schools	Mean Of Each Subject					
		Bhs. Ind.	Bhs. Jawa	Math.	Science	App. Skills	Civics
1.	Kebak II	75	78	67	65	70	68
2.	Kebak III	80	70	75	85	70	90
3.	Malanggaten I	75	55	65	70	75	70
4.	Malanggaten II	70	78	62	65	72,5	65
5.	Alastuwo I	65	61	60	56	70	68
6.	Alastuwo II	65	60	65	60	67,5	60
7.	Banjarharjo	85	65	68	68	64,5	70
	Total Mean	73,5	66,7	66	67	69,9	70

Nr.	Non - Exp. Schools.	Mean Of Each Subject					
		Bhs. Ind.	Bhs. Jawa	Math.	Science	App. Skills	Civics
1.	Kebak I	63	65	65	61	70	72
2.	Kemiri I	62	60	65	60	62,5	60
3.	Kemiri II	65	60	65	60	67,5	60
4.	W a r u I	67	70	69	67	67	70
5.	W a r u II	66	62	76	73	64	64
6.	Nangsri I	62	66	64	68	67	65
7.	Nangsri II	56	63	59	65	62,5	57
	Total Mean	63	63,7	66,1	64,8	65 7	64

INTERPRETATION : ME = 68,8
MNE = 64,5
ME > MNE
to = 2,87
tt = 2,75
to > tt

There is significant Difference
Exp. Schools > Non. Exp. S

* School Achievement Test

TABLE: VII B.

DISTRIBUTION OF DIFFERENCE FREQUENCY OF BPT SCORE

BETWEEN EXPERIMENT AND NON-EXPERIMENT SCHOOLS

GRADE V/1975.
(AFTER THE FORMAL TRY-OUT)

	EXP. SCHOOLS. (A)	Mean of each subject:				
		B.Ind.	Math.	IPA	I.Bumi	Seja-rah.
1.	Kebak. II	95	No. report	-	98,2	96,5
2.	Kebak. III	96,7	-	No report	90,9	98,8
3.	Malanggaten I	92,6	92,2	76,2	91,3	93,4
4.	Malanggaten II 95,5/87,0	81,5	-	73	74,7	79,6
5.	Alastuwo I	68,9	-	84,8	-	-
6.	Alastuwo II	82,9	87,7	-	90,5	95,1
7.	Banjarharjo	92,2	-	90	-	-
	Mean Total	87,1	89,9	81	89,1	92,7

NON - EXP. SCHOOL. (B)	Mean of each subject:				
	B.Ind.	Math.	IPA	I.Bumi	Sej rah.
Nangsri I	42,9	64,9	65,4	59,1	58,
Nangsri II	54,4	64,3	60,3	45,3	61,
Kemiri I	47,6	54,2	60,6	49	62,
Kemiri II	64	68	66	54	69
W a r u I	60,9	No report	62,9	59,1	61
W a r u II	69,8	67,7	70,8	58,2	60,
Kebak. I	53	54	60	60	59
Mean Total	56,1	62,2	63,7	54,9	61,

Interpretasi: MA = 87,96 MB = 59,74 MA > MB

to - = 9,66

tt 1 % = 4,604

to > tt

There are significant differences. Experiment schools achieve higher scores than Non-Experiment schools.

Note : BPT Stands for Block Post test

TABLE: VIII A.

DISTRIBUTION OF DIFFERENCE FREQUENCY OF S.O.T.* SCORES

BETWEEN EXPERIMENT AND NON-EXPERIMENT SCHOOLS

GRADE IV/1975.

(AFTER THE FORMAL TRY-OUT).

	Exp. School: (A)	Mean of each subject :				
		B. Ind.	Math.	IPA	IPS	Kec. Khs.
1.	Kebak. II	73,4	69,8	-	-	-
2.	Kebak. III	58,3	-	72,6	-	-
3.	Malanggaten I	69,9	-	-	68	-
4.	Malanggaten II	74,4	-	-	67,6	-
5.	Alastuwo I	No Report	-	No Report	-	-
6.	Alastuwo II	69,7	-	-	-	-
7.	Banjarharjo	82,5	-	-	-	72,2
	Mean Total	71,4	69,8	72,6	67,8	72,2

Non Exp. School: (B)	Mean of each subject :				
	B. Ind.	Math.	IPA	IPS	Kec. Khs.
Nangsri I	61	66,4	58,1	62,3	65,7
Nangsri II	61,9	67,8	60,3	63,4	60,6
Kemiri I	47	46,3	49,8	48,5	58,3
Kemiri II	55,4	59,7	58,9	56,1	60,6
W a r u I	57,8	62,9	49,1	60,3	63,3
W a r u II	62,7	66,1	64,3	60,5	64,1
Kebak. I	51,7	53,5	50,3	50	59,2
Mean Total	56,8	60,4	55,8	57,3	61,7

Interpretation: MA = 70,76
to = 8,70
MB = 4,604
tt = 4,604
MA > MB
to > tt

There is significant difference.

Experiment school > Non Experiment school.

* Note : S.O.T. stands for School Official Test

TABLE: IX B.

DISTRIBUTION OF DIFFERENCE FREQUENCY OF S.O.T.* SCORES

BETWEEN EXPERIMENT AND NON-EXPERIMENT SCHOOLS

GRADE: V/1975 TRIMESTER: I (AFTER THE FORMAL TRY-OUT)

	Exp. School (A)	Mean of each subject :				
		B.Ind.	Math.	IPA	IPS	Kec. Khs.
1.	Kebak. II	68,7	72,4	-	57,5	-
2.	Kebak. III	76,4	-	67,9	69,1	88,6
3.	Malanggaten I	68,7	59,3	75,9	68,6	-
4.	Malanggaten II	69	-	63,5	61,5	-
5.	Alastuwo I	58,1	-	56,7	-	69,5
6.	Alastuwo II	70	67,3	-	66,4	-
7.	Benjarharjo	76,3	-	78,3	-	71,6
	Mean Total:	69,6	66,3	68,5	64,6	76,6

Non Exp. School (B)	Mean of each subject :				
	B. Ind.	Math.	IPA	IPS	Kec. Khs.
Nangsri I	68,5	52,9	59,1	63,7	65,5
Nangsri II	56,3	65,5	62,5	62,3	63,2
Kemiri I	62,6	58,6	62	63,1	63,4
Kemiri II	63,5	65,6	68,5	68,9	69,5
W a r u I	66,9	60,6	62,1	57,6	63,5
W a r u II	63,4	64,4	65,2	64,5	65
Kebak. I	68,6	53,8	58,3	66,5	59,2
Mean Total:	64,3	60,2	62,5	63,8	64,2

Interpretation: MA = 69,12 MB = 63. MA > MB
to = 3,60 $tt_1\%$ = 4,604
∴ to < tt

No significant difference.
Experiment school = Non experiment school.

*School Official Test

TABLE X A.

THE COMPARISON OF S.O.T. *SCORES BETWEEN EXPERIMENT AND NON-EXPERIMENT SCHOOLS GRADE IV TRIMESTER II / 1975

Nr.	Expl. Schools	Of Each Subject.					
		B.Ind.	Bhs. Jawa	Math.	Science	App. Skills	Civics
1.	Kebak II	76	65	75	65	70	65
2.	Kebak III	80	70	60	55	67,5	75
3.	Malanggaten I	79	71	70	65	67	77
4.	Malanggaten II	70	69	61	67	73	68
5.	Alastuwo I	61	66	65	65	72	65
6.	Alastuwo II	63	67	62	61	65,5	63
7.	Banjarharjo	81	80	76	76	73	79
	Total Mean	72,8	69,7	67	64,8	69,7	70,3

Nr.	Non-Exp. Schools.	Of Each Subject					
		B.Ind.	Bhs. Jawa	Math.	Science	App. Skills	Civics
1.	Kebak I	65	70	55	65	60	55
2.	Kemiri I	65	60	65	65	65	65
3.	Kemiri II	63	67	62	61	65,5	63
4.	W a r u I	71	72	61	63	75,5	64
5.	W a r u II	65	70	70	71	71,5	72
6.	Nangsri I	71	60	65	54	62,5	63
7.	Nangsri II	64	65	58	59	58,5	62
	Total Mean	66,3	66,3	62,3	66,6	65,5	63,3

INTERPRETATION : ME = 69 to = 6,16
MNE = 64,4 tt = 2,75
ME > MNE to tt

There is significant difference. Experiment Schools > Non-Experiment Schools.

* School Achievement Test

TABLE XI A

THE COMPARISON OF B.P.T. SCORES BETWEEN EXPERIMENT AND NON-EXPERIMENT SCHOOLS, GRADE IV, TRIMESTER II/1975

No.	Exp. Schools	Mean Of Each Subjects								
		Bhs. Ind.	Bhs Jawa	Math	Science	App. Skills	Civics			
							Geo	Cv.	His.	Mean
1.	Kebak II	78,5	--	73,3	--	-	-	--	--	--
2.	Kebak III	82,5	--	--	46	79,8	--	--	--	-
3.	Malanggaten I	78,9	-	-	--	-	79,9	NSE	81,7	80,8
4.	Malanggaten II	80,2	--	-	--	-	72,3	34,4	70,6	75,7
5.	Alastuwo I	71	-	-	55,5	-	-	--	-	--
6.	Alastuwo II	74,3	NSE	NSE	-	-	-	-	-	-
7.	Banjarharjo	97,1	81,8	-	--	84	-	-	-	-
	Total Mean	80,3	81,8	73,3	50,7	81,9	-	-	-	78,2

Non. Exp. Schools.	Mean Of Each Subject								
	Bhs. Ind.	Bhs. Jawa	Math	Science	App. Skills	Civics			
						Geo.	Cv.	His.	Mean
Kebak I	NSE	NSE	50	37	48	68	-	72	70
Kemiri I	51	38	44,4	17,4	57,6	63,8	46	55	54
Kemiri II	NSE	29	35	16	58	57,5	47	38,5	47
W a r u I	28,9	38,9	30	25	27	68,1	36,2	46	48
W a r u II	NSE	NSE	NSE	20	46	59	-	47	53
Nangsri I	37	27	55	35	75	-	46	57	51
Nangsri II	42	44	35	40	35	55	43	60	52
Total Mean	39,7	35,3	41,5	27,2	49,5	-	-	-	54

INTERPRETATION : ME = 74,4
MNE = 41,2
ME > MNE
to = 8,99
tt = 2,750
to > tt

There is significant Difference
Exp. Schools Non-Exp. Schools.

TABLE XII

THE COMPARISON OF B.P.T. *SCORES BETWEEN EXP. AND NON-EXPERIMENT SCHOOLS, GRADE V, TRIMESTER II/1975

Nr.	Exp. Schools	Mean Of Each Subject								
		Bhs. Ind.	Bhs. Jawa	Math	Science	App. Skills	Geo	Cv.	His	Mean
1.	Kebak II	98	-	97,1	-	-	99,1	NSE	98	98,5
2.	Kebak III	NSE	-	-	86,2	96,4	NSE	NSE	96,1	96,1
3.	Malanggaten I	NSE	-	80,1	NSE	-	93,2	NSE	NSE	93,2
4.	Malanggaten II	77,6	-	-	82,3	-	73	NSE	77	75
5.	Alastuwo I	63,1	-	-	71,5	90,5	-	-	-	-
6.	Alastuwo II	74,1	NSE	67	-	-	64,9	NSE	65,3	65,1
7.	Banjarharjo	89	NSE	-	77,8	93,1	-	-	-	-
	Total Mean	80,3	-	81,4	79,4	93,3	-	-	-	-

Non Exp. Schools.	Mean Of Each Subject								
	Bhs. Ind.	Bhs. Jawa	Math	Science	App. Skills	Geo	Cv.	His.	Mean
Kebak I	NSE	NSE	41,2	55,7	68.4	66,4	65,5	72,6	68,19
Kemiri I	60	62	40	59	45	61	65	56	57,3
Kemiri II	59	48	43	47	55	50	70	65	61,6
W a r u I	NSE	NSE	33	44	31	44	53	58	51,6
W a r u II	NSE	NSE	42	46	44	46	65	51	54
Nangsri I	55	46	28	40	35	57	68,5	38	54,5
Nangsri II	51	42	59	58	42	66	76	-	71
Total Mean	56,2	49,5	40,9	49,9	45,8	-	-	-	59,7

Interpretation : NE = 84,0
NE > NNE
NNE = 50,5
to = 7,44
tt = 2,845

There is significant Difference.
Exp. Schools > Non-Exp. Schools.

Notes : NSE = No Score Evaluable.

* Block Post Test

b. Programmed teaching.

PAMONG is still going to prepare the grade I - III program. It means that we have not implemented programmed teaching yet. The task Force is still on training.

c. Role of programmed teachers and tutors.

PAMONG Solo makes a differentiation between tutors and programmed teachers. The tutors are of secondary school children, and they function in a certain condition where the PAMONG pupils need assistance in their learning activities. But the programmed teachers are planned to be "a teacher". They will be recruited from grade five pupils who are fast learners, and they would "teach" the younger pupils by delivering the program which is designed by a designer. They can not and are not permitted to create any additional way and substance of instruction.

It is true, might be, that they are tutors. In this point of view the tutors are now in action. But not the programmed teachers.

About tutors we can note some aspects as follows:

1. Job Description:

   1.1 Supervising Tutor and assisting them in case they need it.

   1.2 Administering Modules Post Tests.

   1.3 Reporting the results of the Modules Post Tests, and the Tutees' problem and progress to the Teachers.

2. Proyek Pamong did not assign the Tutors to do those things simultaneously.

   See the following

   2.1 Phase I.
      2.1.1 Tutors are supposed to assist Tutees in solving the problems arising in the modular learning.

      2.1.2 Tutors are obliged to report the Tutees' problems to the Teachers.

   2.2 Phase II.
      2.2.1 Continuing the assignments in Phase I.

      2.2.2 Administering Modules Post Tests.

2.3 Phase III.

2.3.1 Continuing the assignments in Phase II.

2.3.2 Correcting Modules Post Tests.

2.3.3 Reporting the Tutees' progress to the Teachers.

2.4 Phase IV.

2.4.1 Continuing the assignments in Phase III.

2.4.2 Grading the Modules Post Tests.

2.4.3 Reporting the grades to the Teachers.

3. The stepping up from one phase to another depends on the individual Tutor's job performance as assessed by the Teachers. Each phase takes approximately 2 to 6 weeks. Generally speaking, however, Phase I was accomplished at the end of 1974, while Phase IV in July 1975.

4. An evaluation on the Tutors' and Monitors' job performances were done at the end of September 1975. The main points of survey are briefly presented in Appendix I. The survey disclosed some shortcomings of the Tutors' and Monitors' job performances, but at the same time it provided the valuable information about the steps supposedly to be done to improve their performances.

5. One of the most important problems to be handled immediately as disclosed in the survey is that administering Modules Post Tests seems to be too time consuming for most Tutors. This is thought to be the deterrent factor preventing them from doing perfectly their basic tutorial job : tutoring their tutees. This may give rise to another fundamental problem : bright Tutees may have to slowen their 'self pace' due to lack of attention from their respective Tutors. One alternative that could possibly be done is to free the Tutors from administering the Modules Post Tests. The problem then, is who are supposed to do the job? At the moment, this is an open question requiring immediate answers.

6. Tutoring process is schematically presented in Diagram I, to provide some idea concerning that matter. This diagramatic presentation is based on the actual tutoring process that has been going on in the last two years.

7. Data on tutors in connection with clienteles (pupils).

7.1 Number of potential clientele, tutors and programmed teachers recorded: 1824

a. Potential Clientele.....1452

b. Potential Tutors and Program Teachers.... 372
The ratio between (b) and (a) = 1 : 3,9.

7.2 Age Group:

a. 6 - 9 = 197
b. 10 - 15 = 649
c. 16 - 24 = 978

7.3 Sex Group:

a. Potential Clientele:
Male : 693
Female : 859

b. Potential Tutors and Program Teachers :
Male : 260
Female : 112

7.4 Educational Background:

7.4.1 Potential Clientele:

a. These who never get any formal education..... 817

b. Primary School Graduates..... 635

7.4.2 Potential Tutors & Programmed Teachers:

a. Primary School Graduates..... 256
b. Junior High School Drop Outs.. 44
c. Junior High School Graduates.. 27
d. Senior High School Drop Outs.. 11
e. Senior High School Graduates.. 34

Total.....:1824

7.5 Marital Status:

a. Married : 328
b. Single : 1496

7.6 Occupation:

a. Involved in occupational activity of any kind..... 276

b. Not involved in any occupational activity..... 1548

8. An Evaluation of the tutor's job

Tutors' job performances during the period of - September 1974 to August 1975 were evaluated in an evaluation

survey at the of August 1975. The following reports on the methodology and the results are expected to set some light on the Tutors' activities during that period :

8.1 Purpose

1.1 To see how well Tutors perform their jobs.

1.2 To identify problems to be eliminated.

It was decided to make use of the results of the survey to help formulate the integrated in-and-out-of-school program to be operationalized in the Pamong's project area.

8.2 Data Collecting

Questionaires for 79 Tutors, 282 Pupils supervised by the Tutors, 16 Teachers. (use Population or total sample)

8.3 The estimated Data Validity

Tutors' responses were cross-checked by their supervised Pupils' respectively. Statistical test - Chi-Square - indicated that there were no significant differences between those responses. It is estimated, therefore, that the data validity is sufficiently high.

8.4 Scoring System

The items of the questionaires and interview guides were set and formulated in such a way as to make sure that the answers would fall in the following scale:

'Good' (Score 3), 'Fair' (Score 2), and 'Poor' (Score 1).

Scoring Standard :

8.4.1 Good & Fair		60%	:Poor.
8.4.2 Good & Fair	=	60% - 79%	:with 'Good' less than 80% : Fair.
8.4.3 Good		80%	:Good.

Using such a high scoring standard, it is conceivably expected that various problems will be spotted, and the necessary remediatory steps can be definitely determined.

9. The results of the survey.

9.1 Job understanding and job performance scores.

Score aspects \ Primary School	Kebak-Kramat		Malang-gaten.		Alas-tuwo.		Ban-jarhar-jo.
	II	III	I	II	I	II	
Job understanding Scores.	F	F	F	F	F	G	F
Job performance Scores	P	P	F	F	P	F	P

9.2 The aspects of job performance poorly done by the tutors.

9.2.1 The frequency of filling in pupils deficiency forms.

9.2.2 The frequency of giving Final Modula Tests.

9.2.3 The frequency of assisting the supervised pupils.

9.2.4 The frequency of reporing tutoring activities.

9.2.5 The frequency of contacts with the supervised pupils' Parents concerning the pupils problems.

10. Problems As Identified By Tutors

10.1 They feel that their supervised Pupils do not need any assistance in doing their work.

10.2 They feel that the modulesare generally too easy so that Pupils do not feel necessary to ask assistance.

10.3 They consider giving 'Final Modula Tests' as time consuming.

10.4 Lack of time to assist their supervised Pupils.

11. Brief Comments:

11.1 If low scoring standards were used, the results would be much better, but the existing problems would be obscured, and this would obviously endanger the system experimentation.

11.2 Since high scoring standards were used, the results were unsatisfactory; yet the existing problems could be disclosed, and the remediatory steps could immediately be taken - and this has been done in its preliminary forms -, so that the slightest risks of failure could be eliminated.

Role of IS (Instructional Supervisor)

Since the Learning Centre is not in its full features yet, the IS is also still in its preparation picture. In 1975 the IS still works in an "embryonic LC". So the teachers of grade IV and V are functioning as the Instructional Supervisors. They "manage" only their own pupils. The number of them are about 30.

The concept of Instructional Supervisor is still in "brain storming" phase again and again. But the central idea is stressed on her desired function, in which she must motivate the community to be "learning society," and by this funciton she would be "a social change agent."

Community resources

a. Parents

In Pamong System parents act as monitor. In this period (1975) they have functioned in such a way, so that the Pamong staffs feel that evaluation of their activities can be conducted.

The following passage will show the staff's effort to evaluate monitoring activities, starting from job description.

1. Job Description.

1.1 The Parents - Monitors - are supposed to permit, to stimulate and to supervise their children in the modular learning activities.

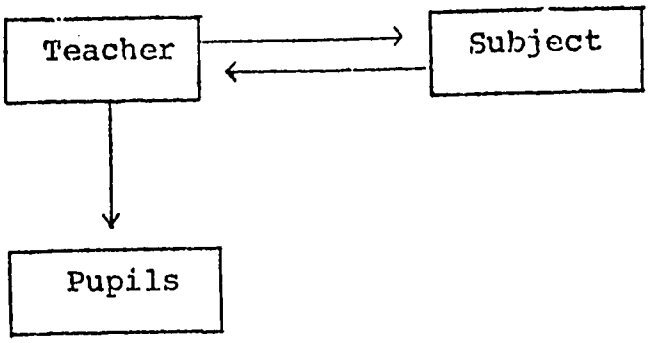
1.2 In case the Parents are incapable of assisting their children to solve problems, they are supposed to talk to the Tutors or Teachers concerning the matter.

Did they do the jobs they are supposed to do? The evaluation on Monitors' job performances indicates some shortcomings - as presented below.

The more fundamental factor thought to be contributing to the imperfectness of the job performances seems to rest on their unawarences that their position in the Pamong system with respect to their children's learning process is different from that in the traditional system.

1.3 As indicated in Diagram II, the role of Parents in the traditional process is neglected.

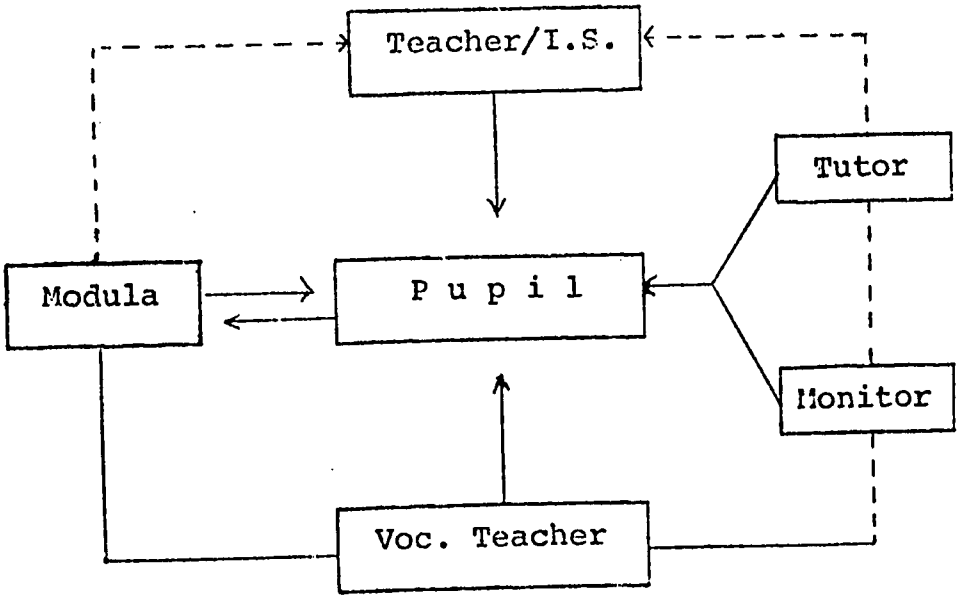
DIAGRAM II



In other words, they are not formally involved in the learning process.

In the PAMONG system, on the contrary, the role of Parents is considerably significant as indicated in Diagram III.

DIAGRAM III



In other words, they are strongly expected to be aware of their responsibility to assist their children in the learning process.

2. Summary of the evaluation Survey on the Monitors' job performance.

Monitors' job performances during the period of - September 1974 to August 1975 were evaluated in an evaluation survey at the end of August 1975. The following reports on the methodology and the results are expected to set some light on Monitors' activities during that period:

2.1 Purpose.

2.1.1 To see how well Monitors perform their jobs.

2.1.2 To identify problems to be eliminated.

It was decide to make use of the results of the survey to help formulate the integrated in-and-out-of-school program to be operationalised in the Pamong's project area.

2.2 Data Collecting.

Interviews for 32 Monitors/Parents. (use Sample) selected on the base of the Pupils' grade achievement as assessed by the Teachers.

2.3 The estimated Data Validity.

Monitors' responses were cross-checked by their supervised Pupils' and Children's respectively. Statistical test - Chi-Square - indicated that there were no significant differences between those responses. It is estimated, therefore, that the data validity is sufficiently high.

2.4 Scoring System.

The items of the questionaires and interview guides were set and formulated in such a way as to make sure that the answers would fall in the following scale:

'Good' (Score 3), 'Fair' (Score 2), and 'Poor' (Score 1).

Scoring Standard:

2.4.1 Good & Fair 60% : Poor.

2.4.2 Good & Fair = 60% - 79%: with 'Good' less than 80% : Fair.

2.4.3 Good 80% : Good

Using such a high scoring standard, it is conceivably e expected that various problems will be spotted, and the necessary remediatory steps can be definitely determined.

2.5 Monitor :

Job understanding and job performance Scores.

Score aspects \ Primary School	Kebak-kramat		Malang-gaten		Alas-tuwo		Ban-jar-har-jo.
	II	III	I	II	I	II	
Job understanding Scores	F	F	F	F	F	F	G
Job Performance Scores	P	P	P	P	P	P	P

2.6 The aspects of job performance poorly done by the Monitors :

2.6.1 The frequency of contacts with Tutors concerning their children's problems.

2.6.2 The attention to 'psychological rewards' with respect to their children's grade achievements.

2.6.3 The frequency of contacts with Teachers concerning their children's problems.

2.6.4 The attention to the urgency of their children's involvement in study groups.

2.6.5 Their concerns about tutoring problems.

2.7 Problems As Identified By Monitors.

2.7.1 Lack of educational knowledge to do their monitoring job.

2.7.2 They think that their children do not need their advices.

2.7.3 They think that modula are too easy for children so that monitoring become unnecessary.

2.8 Brief Comments:

2.8.1 If low scoring standards were used, the results would be much better, but the existing problems would be obscured, and this would obviously endanger the system experimentation.

2.8.2 Since high scoring standards were used, the results were unsatisfactory; yet the existing problems could be disclosed, and the remediatory steps could immediately be taken - and this has been done in its preliminary forms -, so that the slightest risks of failure could be eliminated.

2.9 The shift in position and role necessitates some fundamental change in attitude toward education in its broadest term. It is taken for granted, that it is not an overnight job to create such a change. However, some promising facts are as follows :

2.9.1 The Parents have been willing to pick up school report for their children from the school office, and talk to the Teachers concerning their children's grade achievements.

2.9.2 The Parents have been willing to permit their - children to work with Tutors.

2.10 The training program consists of 50% theory and 50% practice at the beginning, and 25% theory and 75% practice at the end.

b. Other human resources

Human resources would available in terms of the members of certain institution. For example the members of boyscout movement, rural youth organization (Kader Taruna Desa), youth serving clule (Siwoman), Pristering group, Institution for rural welfare (LSD) etc.

In terms of individual authority we can mention a monk and medical person (dutun). They are usually become a place to ask every things.

1. Vocational Teachers

1.1 Proyek PAMONG has now the following vocational training programs being undertaken :

1.1.1 Carpentry.
1.1.2 Sewing.
1.1.3 Poultry.

1.2 Here are some activities to be reported :

1.2.1 The Vocational Training programs are being done in Alastuwo I Primary School.

1.2.2 Proyek PAMONG partly provides the equipments required to work out the programs. The rests are provided by the respective Vocational Teachers, such as sewing machines and carpentry equipments.

1.2.3 The Vocational Training is held once a week, 120 minutes each.

1.2.4 The pupils are supposed to choose their own vocational interest.

1.2.5 This program is aimed at providing the pupils with some basic practical skills, not preparing them to earn their living with that skills.

1.2.6 The training is presented in Program Learning Modules.

1.2.7 The Teachers are program supervisors.

1.2.8 The process of modules construction :

1.2.8.1 I.M.E., S.M.E., and R.E.C. formulate the objectives of the training program.

1.2.8.2 I.M.E., S.M.E., R.E.C. and Vocational Teachers determine the training materials.

1.2.8.3 S.M.E. writes up the modules.

1.2.8.4 Suggestions from I.M.E.

1.2.8.5 The modules are ready for use.

c. Material and institutional resources.

1. The villages chosen for Project Pamong are agricultural. The main occupation is farming, and the main crop is rice. Another crop is corn and sugarcane.

There are some home industires i.e. pautile, bamboo planting, and there is sugarcane factory.

Some local and religious institutions can be used as means of education or to improve education, i.e. Boyscout movement, Rural Youth organization (Kader Taruna Desa), Youth serving club (Sinoman), Pristening group, Institution for rural welfare (LSD) etc. etc.

Types of person in the villages concerned with special skills which can be mobilized for educations consist of farmers, artisants, carpenters, brick layers, smiths, nurses. There are some educational programs, i.e. agricultural education, health and family planning education, home economics.

2. With respect to the community involvement in the Pamong system experimentation we did the following in Trimester III/1974:

   1. Establishing Local Steering Committee.
   2. Tutorial system preparation and implementation.
   3. Monitorial system preparation and implementation.
   4. Preparing vocational teachers for work.

   Brief report on that matters are presented in the following parts, with a global description about the plan to be done at the end.

   2.1 Local Steering Committee, as desired institution.

   2.1.1 The Local Steering Committee virtually did not function since its establishment in 1974. This can be attributed to many factors. To mention some of those :

   2.1.1.1 Until most recently, Proyek Pamong did not want to activate the Local Steering Committee since the development of the idea of involving the out-of-school children in the system experimentation seemed to put the proyek into an unsure situation, not knowing what to do.

   2.1.1.2 The formal nomination of the Local Steering Committee was not done until September 25,1975. The delay seemed to be a deterrent factor for the member to do the jobs they were supposed to do.

   2.1.2 Despite the fact that the Local Steering Committee did not yet work, some members of the committee have been actively participating in the system experimentation, apart from their membership in the committee. Head of District, Heads of Village, School Principals - to mention only some of them - have been involved in field surveys as informances, assisting technically modules construction, supervising the modular learning, and many other specialized activities related to their respective official functions.

2.1.3 Some Proposals:

To seek supports from the local officials does not always mean to set up a w institution. Setting up new institutions may push the system into a far more complicated network which may have some negative impacts on the results of the work. This is to say that the necessity of keeping the Local Steering Committee exist should be reevaluated.

Community Learning Center

It has been stated in the Annual Report 1974 that the framework of the Community Learning Center was still in its embryonic form in 1974, in terms of not being fully active, even in 1975.

1. Features of embryonic Learning Center in 1974 :

1.1 Grade IV teachers managing their classroom pupils (about 30 children) functioning as

- Instructional Supervisors
- Tutors, and
- Monitors.

The pupils learning the modules of the modularized subjects, side by side with the traditional system in non-modularized subjects.

1.2 The next stage, the teachers functioning as Instructional Supervisor managing their classroom pupils, and as tutors; parents beginning to function as monitors.

1.3 At the further stage, the teachers functioning merely as learning activities managers.

1.4 Preliminary activities towards the completion of the core elements :

1.4.1 - recruitment of vocational teachers.

1.4.2 - limited application of self-pacing.

2. Features of the embryonic Learning Center in 1975.

Activities and steps taken in 1975 are as follows :

2.1 Further steps.

2.1.1 The teachers functioning as Instructional Supervisors are Grade IV & V teachers;

2.1.2 Grade IV pupils promoted to Grade V learning four modularized subjects (in 1974 two subjects) in limited application of self-pacing.

2.1.3 Vocational Teachers being utilized in Trimester II/1975.

2.1.4 Tutors and Monitor having functioned; tailoring, carpentry, poultry in one school only assesements on their effectiveness have been conducted.

2.2 Two Alternatives.

There are two alternatives to be considered by the Steering Committee

2.2.1 An approach commencing from tackling in-school children (formal primary schools) outwards leading to modifying formal primary school system to PAMONG system.

2.2.2 An approach tackling all the children in the community (both in-school and out-of-school children), by "dissolving" the existing formal school.

Alternative 2.2.1 is likely preferable and it affects further planning in several aspects. The preference accords to the Memorandum of Agreement, and decision made in the Steering Committee meeting in Solo. The operational formulation stated mainly that in-school and out-of-school children should be tackled simultaneously in the form of extending the management by classroom teachers outwards (see Memorandum of Agreement and Decision of the Steering Committee).

2.3 <u>Document concerning Grade I - III</u>

Referring to the Initial Planning Document, there will be designed a special document concerning Grade I - III in 1975.

PAMONG comes to the following decision :

2.3.1 PAMONG system learning for Grade/Level I to begin in Trimester I/1976.

2.3.2 Programmed Teaching are to be applied in Grade I - II.

2.3.3 Programmed Learning are to be applied in Grade III.

2.3.4 Instructional Supervisors are to be recruited from the teachers who will manage the learning procedures for Grade/Level I - III.

Their functions will gradually be applied leading to the management of learning for children in the community vertically (Grade I - VI), or several grades involving up to 200 children. F

2.3.5 Tutors, whose functions are tutoring in the Grade IV - VI programs, will be programmed teachers in the the I - III programs, teaching beginning reading.

SEAMEO INNOTECH PROJECT IMPACT

PLANS FOR 1976 - 1980

BANGKOK November 1975

PLANS FOR 1976 - 1980

I. INTRODUCTION

A. Background

Project IMPACT which is a management system for the delivery of mass primary education, has adopted a three - pronged research approach which embraces (a) the tryout of the components of the delivery system for mass primary education, (b) the investigation of the teaching of reading at the first grade in the native language, (c) the investigation of the teaching of the second language.

In Year I of the tryout, the research activities undertaken were directed to the tryout of the components of the system such as modularized or self-instruction, the role of the Instructional Supervisor, the use of elder pupils as tutor, the development of instructional materials that would work out successfully, the role of parents in monitoring pupil's progress, and the use of community resources. All these components revolved around the Learning Center concept. In Year II, an additional dimension was added -- the investigation of the teaching of second language. In the Philippines the tryout involved the teaching of two second languages - English and Pilipino, in keeping with the bilingual policy of the Ministry of Education and Culture.

One of the biggest stumbling blocks encountered in the tryout is the learner's difficulty in the medium of instruction. In both sites, the medium of instruction is a second language - Bahasa Indonesia in Solo and English in the Philippines. In the Philippines an average of 36% of the Grade IV pupils, who were presumed to have already attained proficiency in the medium of instruction, had been found to lack reading comprehension, so that for two summer vacations, the staff had to undertake remedial reading activities for these pupils. In terms of the learners' literacy in the medium of instruction hardly eight percent were really ready to go into self instruction. Furthermore, the progress of the beginning pupils in the learning of the second language through programmed teaching this year has been rather slow. Programmed teaching depends on the availability of elder pupils as programmed teachers. But the number of elder pupils who are really proficient in the second language is rather small; only 33% of elder pupils have been found capable of the role of programmed teacher.

Under the pressures of the above mentioned problem, the research period of four years - June 1974 - December 1978 - could not come up with valid conclusions on the feasibility or non-feasibility of the components of IMPACT. It necessitates the implementation of the tryouts on the strategies for the teaching of the second language which provide the learners the needed literacy skills to undergo self-instruction using the second language; thus this proposal for an additional two years.

B. Rationale

The proposal to extend the tryout and demonstration periods to 1980 is premised on the following :

1. The components of the management system cannot be validly tested within the original plan of four years under the pressures of the constraints identified in the process of evolving the system.

2. There is a dire need to test the components' functionality in respect to the attainment of the primary school objectives in the South East Asian countries.

3. There is a need to verify statistically and experimentally the system's efficiency and effectiveness in the delivery of primary education to the greatest number.

4. Considering the fact that the validity of the components of the system is greatly conditioned by the learner's literacy in the medium of instruction and that the medium of instruction in the two sites is a second language, there is imperative need to try out strategies and approaches to effective and efficient second language teaching.

5. The objectives of research activities within this period are as follows :

   a. To investigate whether the child's proficiency in reading the native language will facilitate the acquisition and attainment of his proficiency in the second language so that he is capable of going into self instruction in primary education.

b. To investigate if the strategy of introducing the learners to the second language immediately upon his arrival in the school system without the use of the native language will facilitate the attainment and acquisition of the literacy skills in the second language to enable him to go into self instruction in primary education.

c. To test the validity of the components of the management system under the above stated conditions.

II. DEVELOPMENTAL RESEARCH ACTIVITIES

PHILIPPINES

A. Module Development

1. To revise the programmed lessons in the second language which were tried out in 1975-1976.

2. To prepare a new set of programmed lessons for the first level in reading in the native language.

3. To prepare self-instructional materials for Levels 1, 2, and 3 to teach the second language by means of the first language.

4. To revise all programmed and self-instructional materials for language teaching after a year of try-out.

5. To revise self-instructional materials in the second language for Levels 4, 5, and 6 after try-out.

6. To rewrite the self-instructional materials for Levels 4, 5, and 6 in Social Studies, Applied Skills and Home Economics into Pilipino. (For the Philippines)

7. To prepare at least two sets of instructional materials for every given objective for all levels in order to make provisions for individual differences.

B. Learning Management System

1. Programmed teaching in the native language for the first half of 1976-1977.

2. Programmed Teaching in the second language for Levels II and III pupils who started programmed teaching in the second language in 1975-1976.

3. Self-instruction in learning the second language using the native language as medium during the second half of 1976-1977 for Level 1 pupils and for Levels 2 and 3 pupils in 1977-1978 and 1978-1979 respectively.

4. Self-instruction in the numeracy skills and other content courses in Levels 2 and 3 in 1977-1978 and 1978-1979.

5. Self-instruction in the second language for Levels 4, 5, 6 in all the four years.

C. The Instructional Supervisor

1. Two Instructional Supervisors for every 200 multi-grade group of pupils : one to carry on the professional role of the IS and the other to do the record keeping and other clerical activities, for 1976-1977.

2. One Instructional Supervisor and one regular non-professional teacher aide for every 200 multi grade pupils. The teacher aide will be offered a minimum honorarium. This is the set up for 1977-1980.

D. The Programmed Teachers

1. The programmed teachers during all these years will be elder pupils distributed thus:

Teachers	Pupils
Level 4 pupils	Level 2 pupils
Level 5 pupils	Level 1 pupils
Level 6 pupils	Level 3 pupils

2. The programmed teaching activities will be integrated with the programmed teacher's learning activities.

E. The Tutorial System

The tutors will include :

1. Secondary pupils who report to the Learning Center one full day each month.

2. Fast learners within the group for peer tutoring.

3. Literate adults and parents who do the tutoring at home in the evenings.

F. Community resources

The following community resources will be tapped by the Project Staff :

1. Parents to monitor pupil's learning progress

2. Secondary pupils to act as tutors and teacher aides

3. Community members with special skills and knowledge

4. Institutions both civic, social, religions and political

5. Prospective teachers in Teacher training institutions in the community

6. Natural features of the community's physical - geographical environment.

G. Community Learning Center

1. The physical components of the Learning Center will be expanded to include :

   a. The existing school buildings and sites

   b. At least 40 Learning Kiosks put up by the community through the Local Steering Committee

   c. Science equipment and facilities - some of which will be made by pupils in the upper levels.

   d. Equipment and tools for home economics and Applied Skills.

   e. Modules, programmed lessons, Cassettes, tapes, visuals, real objects for learning devices.

   f. benches and tables

   g. loose boards, erasers, chalk

   h. books for references and enrichment

i. book shelves and cabinets

j. records

2. The community Learning Center becomes the real hub of learning activities not only for the IMPACT pupils but also for all adult members of the community.

H. Evaluation

Evaluation of IMPACT components will take the following form:

1. Yearly administration of pre-tests and post tests to IMPACT schools as well as to three or four non-IMPACT schools within the community.

2. Periodic evaluation by research staff of the day to day progress of the project.

3. An outside evaluator to investigate the components of the System.

4. An outside cost-analyst to conduct:

   a. cost analysis of the entire management system as contrasted with the existing system.

   b. cost analysis of instructional materials, one using cheaper quality and another using good quality materials.

I. Administration and Supervision

1. The Project Staff takes charge of the planning, programming, implementation and evaluation of the Project.

2. Two principals will be recruited from among the five principals to act as Rural Education Coordinator by 1976-1977.

3. The Education Analyst from the Project Staff will oversee the implementation of the Project.

INDONESIA

A. Module Development

1. Levels 1, 2, and 3, would be divided into two parts:

   a - Levels 1 and 2.
   The module would be programmed teaching on beginning reading and writing, mathematics, cultural heritage. But since the programmed teaching materials are still in the process of designing, so the definite number of subjects for levels 1 and 2 are still being studied carefully. The definite number of subject matters might be four or five.

   b - Level 3.

   The modules would be programmed learning on:

   - Bahasa Indonesia (Indonesian)
   - Bahasa Java (Javanese)
   - Mathematics
   - Science
   - Social Studies - Geography
     - Civics
     - History
   - Applied Skills - Farming
     - Poultry
     - Handicraft

2. Levels 4, 5 and 6.

   The modules are programmed learning on the same subject matters with level 3.

3. Subject matter experts for levels 4 to 6 modules:

   The subject matter experts for level 4-6 modules are responsible for the development and revision of the 4-6 modules based on certain targets, which is decided by the class teacher concerned, the instructional method expert, and the subject matter expert concerned. The modules are developed on the basis of the current curriculum.

4. Task force for levels 1 to 3 modules.

The task force for levels 1 - 3 modules are responsible for the development and revision of syllabus programs and operational programs for programmed teaching for levels 1 to 2 modules and programmed learning for level 3.

5. The language used in the modules.

a - 4-6 modules are written in Indonesian
b - 1-3 modules are being planned as follows:

... At the preparatory stage of level 1, pupils would be taught by the programmed teacher in Javanese for beginning reading by using content program in Javanese. So, at the preparatory stage, both the operational program and content program are in Javanese. This procedure is proposed in order to accelerate the pupils' proficiency in reading.

... At the second part of level 1 the pupils would be taught by the programmed teacher using operational program in Javanese in order to continue to learn beginning reading by using content program in Indonesian. So, at the second part of level 1, the operational programs used by the programmed teacher would be in Javanese, but the content programs would be in Indonesian. This procedure would be continued up to level 2. This procedure is taken in order to accelerate the pupils' proficiency in Indonesian.

At level 3, in the first semester the pupils would learn self-instructional modules in Javanese; and then in the second semester they would learn self-instructional modules in Indonesian.

B. Modularized Instruction

1. Levels 1-3.

a - Levels 1-2

Modularized instruction would be a programmed teaching. The programmed teacher should teach guided by the operational program. They should teach to follow strictly the instructions stated in the operational program.

b - Level 3

In the first semester at level 3 the modularized instruction would be in Javanese, but in the second semester it would be in Indonesian.

C. The Instructional Supervisor

1. 1976 is a preparation year for the implementation of the Learning Center. The professional staff will select who would be the IS for levels 1-3, and for levels 4-6 from the school teachers involved in the Project school. So, in this stage each L.C. will have two IS's.

   It has been decided that two Learning Centers would be developed. The first one is in Alastuwo, and the other one is in Kebak.

   At the first stage, the levels 1-3 IS would function as a programmed teacher, assisted by some other programmed teachers recruited from IKIP Surakarta students or other community resources. After several months, they will be replaced by grade 5 pupils who have been trained as a programmed teacher.

   In trimester II 1976, the out of school children would be recruited to join the 1-3 program. The 4-6 level out of school children, who are formerly drops out, will be tested in order to decide in what level should they be integrated.

   In 1976 the ratio between the Instructional Supervisor and the learners would be 1 : ± 70.

2. In 1977 the Learning Center would be in its first try-out and revision. In this period the Instructional supervisor will manage ± 140 pupils, both in school and out of school children.

3. In 1978 the Learning Center would be in its final try-out and revision. In this period the ratio between the IS and learners will achieve 1 : ± 200, and the IS will manage the learners from level 1 to level 6. The IS will be assisted by at least one non-professional aide recruited from the community. The IS

aide will take care of record keeping.

4. In 1979 the Learning Center would be in its demonstration year. The conditions would be quite the same with the conditions in 1978, i.e. the full implementation of Pamong system. But it is hoped that the system will be running well and more smoothely.

D. Programmed Teachers

1. The programmed teachers for in school children will be the older pupils:

grade IV pupils	grade 2
grade V pupils	grade 1

The programmed teachers for out of school children will be recruited from the community members, who are at least primary school graduates.

Selection and pairing of programmed teacher and pupils will generally be done on natural basis, that is. the pupils will be given the chance to pair themselves. However, the IS must supervise these selections and pairing.

2. The activities of programmed teachers for in school children will be integrated with their own learning activities.

E. The Community Learning Center

1. The physical components at the Learning Center will be make up at:

a - The existing school building and its facilities
b - At least 5-6 Learning Kiosk for each Learning Center
c - Science equipment and facilities
d - tools for applied skills
e - Modules, programmed lessons, cassettes, tapes, visuals, real objects for learning devices
f - Benches and tables
g - Blackboards, erasers, chalk
h - Books for references
i - Book shelves and cabinets
j - Records.

2. The Learning Center by 1978 - 1979 will not only serve the needs at IMPACT pupils but also the needs at the community.

3. The Learning Center will tap all available community resources.

4. The picture of Learning Center can not be separated from its context with the management of LC by Instructional Supervisor. So it would be better to see it in their relation as has been written in item D., and vice versa.

F. Community Resources

1. Parents will continue their role in monitoring childrens' progress.

2. Secondary pupils will continue to serve as tutors.

3. Community members with special skills will be tapped for pupils' learning activities.

4. Material resources available for pupils use will be catalogued in the card index file.

5. Pupils will be encouraged to go to institutions or natural components at the community environment.

III. SCHEDULE OF ACTIVITIES

A. Module Preparation

June - October 1976

Write:

Grade I second semester materials using the native language to teach the second language
Grade III second semester materials
Grade VI second semester materials

Revise:

Grade IV second semester materials

November 1976 - March 1977

Write:

Grade II first semester materials
Grade I first semester set B materials
Grade IV first semester set B materials

Revise:

Grade III first semester materials
Grade V first semester materials

April - August 1977

Write:

Grade II second semester materials
Grade I second semester set B materials
Grade IV second semester set B materials

Revise:

Grade III second semester materials
Grade V second semester materials

September - January 1978

Write:

Grade II first semester set B
Grade III first semester set B
Grade V first semester set B

Revise:

Grade VI first semester materials
Grade I first semester materials

February - June 1978

Write:

Grade II second semester set B
Grade III second semester set B
Grade V second semester set B

Revise:

Grade I second semester materials
Grade VI second semester materials

July - December 1978

Write:

Grade VI set B

Revise:

Grade II materials

January - May 1979

Refinement of modules by a core of 5 subject specialists

3. Learning Management System

June - October 1976

- Administer pre-tests to IMPACT and Non-IMPACT Schools.
- Start Grade I reading in the native language.
- Programmed Teaching for Grades II and III using second language as medium and content.
- Modularized Instruction for Grades IV to VI.

November - March 1977:

- Teach English and Pilipino using native language as medium in self-instructional activity.
- Continue programmed teaching for Grades II and III using second language as content and medium.

- Modularized instruction for Levels 4,5,6
- Administer post tests for evaluation purposes.

April - May

IS's and teacher aide report to the Project Center for orientation workshop and help evaluate the results of post tests.

June 1977 to March 1978

- Administer pre-tests before the start of classes.
- Teach reading in native language to beginners during the first semester.
- Teach second language to Grade I using native language during second semester
- Teach second language to Grade II using native language as meduim for self-instruction.
- Use self-instruction in second language for all subjects in Levels 4 - 6.
- Administer post tests for evaluation.

April - May 1978

- Evaluation of post test results.
- Workshop for IS's in preparation for next year.

June - May 1979

- Administer pre-tests.
- Teach reading in native language to beginners.
- Use self-instructional materials to teach second language by means of native language for the second semester of Grade I and for all Grade II and III pupils.
- Use sets A and B materials for Levels 1 and 4.
- Use self-instruction in second language for all Levels 4 - 6 pupils.
- Administer post tests.

April - May 1979

- Prepare IS's and Teacher aides for Demonstration year.

June - March 1980

- Administer pre-tests.

- Teach beginners reading in native language.
- Use self-instruction for Levels 1 during the second semester and all Levels 2 and 3 throughout the year.
- Use sets A and B for all levels.
- Use self-instruction in second language in all subjects for Levels 4 - 6.
- Administer post tests.

April - May 1980

- Evaluation
- Reporting

C. Evaluation:

June - July 1977

Conduct cost analysis of teaching materials. both the cheaper quality and the good quality to serve as basis for printing of materials for demonstration year.

January - February 1979

First external evaluation of IMPACT System by experts.

November - December 1979

Second external evaluation of IMPACT System by experts.

PROJECT REQUIREMENTS AND BUDGET

Year IV July 1976-June 1977

		Solo	Cebu	Total
I.	Research	21,749*	21,286*	43,035*
	A. Staff			
	1. Project Director (2)	$ 2,340	$ 5,076	7,416
	2. Project Associate (1)	2,100	-	2,100
	3. Instructional Methods Expert (2)	780	840	1,620
	4. Education Analyst (1)		840	840
	5. Subject Specialists (24)	7,920	8,070	15,990
	6. Rural Education coordinators (4)	1,320	1,260	2,580
	7. Editor		660	660
	8. Instructional Materials Officer (2)	780	720	1,500
	9. University Advisors	900	600	1,500
	10. Instructional Supervisors (11)	1,680	1,260	2,940
	11. Teacher Aides (28)	1,260	1,080	2,340
	12. Principal Teachers	420	-	420
	13. Community Skilled Persons	432	-	432
	14. Programmed Teachers (28)	1,816	-	1,816
	B. Travel and Subsistence	560*	1,000*	1,560*
	1. Six (6) Round-trip plane tickets	320	300	620
	2. Per diems	240	500	740
	3. Miscellaneous		200	200
II.	Research Support			
	A. Staff	6,780*	7,350*	14,130*
	1. Secretaries/Typists (9)	2,100	2,460	4,560
	2. Printers (4)	840	1,260	2,100
	3. Illustrators (4)	840	2,070	2,910
	4. Collactors/Binders (4)	840	900	1,740
	5. Driver/Mechanic (2)	600	660	1,260
	6. Messenger (1)	360	-	360
	7. Guard (1)	360	-	360
	8. Proofreaders (2)	840	-	840

	Solo	Cebu	Total
B. Services			
Communications	500	500	1,000*
C. Supplies	26,000*	10,100*	36,100*
1. Printing of Materials	1,000	3,000	4,000
2. Report Publications	1,500	600	2,100
3. Paper for Instructional Materials	20,000	3,000	23,000
4. Office Supplies	1,000	1,000	2,000
5. Miscellaneous Instructional Materials	2,000	2,500	4,500
6. Graphic Arts	500	-	500
D. Equipment	2,500*	2,500*	5,000*
1. Equipment and Vehicle Maintenance	500	500	1,000
2. General Equipment	2,000	2,000	4,000
E. Miscellaneous Expenditures		780	780*
TOTAL	57,589*	43,016*	100,605*

Year V July 1977 - June 1978

	Solo	Cebu	Total
I. Research			
A. Staff	21,749*	22,151*	43,800*
1. Project Director	2,340	5,580	7,920
2. Project Associate	2,100	-	2,100
3. Instructional Methods Expert	780	924	1,704
4. Education Analyst	-	924	924
5. Subject Specialists	7,920	8,887	16,807
6. Rural Education Coordinators	1,320	1,386	2,706

	Solo	Cebu	Total
7. Editor		726	726
8. Instructional Materials Officers	780	792	1,572
9. University Advisors	900	800	1,700
10. Instructional Supervisors	1,680	1,536	3,216
11. Teacher Aides	1,260	672	1,932
12. Principal Teachers	420	-	420
13. Community Skilled Persons	432	-	432
14. Programmed Teachers	1,816	-	1,816
B. Travel and Subsistence	560*	1,030*	1,590*
1. Round trip tickets	320	330	
2. Per diems	240	500	
3. Miscellaneous	-	200	
II. A. Staff	6,780*	8,085*	14,865*
1. Secretaries/Typists	2,100	2,706	4,806
2. Printers	840	1,386	2,226
3. Illustrators	840	2,277	3,117
4. Collators/Binders	840	990	1,830
5. Driver/Mechanic	600	726	1,326
6. Messenger	360	-	360
7. Guard	360	-	360
8. Proofreaders	840	-	840
B. Services	500*	500*	1,000*
Communications	500	500	1,000
C. Supplies	26,000*	12,060*	38,060*
1. Printing of Materials	1,000	3,300	
2. Report Publications	1,500	660	
3. Paper for Instructional Materials	20,000	3,500	
4. Office Supplies	1,000	1,100	
5. Miscellaneous Instructional Materials	2,000	3,000	
6. Graphic Arts	500	-	

	Solo	Cebu	Total
D. Equipment	2,500*	960*	3,460*
1. Equipment and vehicle maintenance	500	960	
2. General Equipment	200	-	
E. Miscellaneous Expenditures	-	858	858
TOTAL	57,589	45,644	103,233

Year VI July 1978-June 1979

	Solo	Cebu	Total
I. Research			
A. Staff	16,228*	22,063*	38,291*
1. Project Director	2,340	6,138	8,478
2. Project Associate	2,100	-	2,100
3. Instructional Methods Expert	780	1,017	1,797
4. Education Analyst	-	1,017	1,017
5. Subject Specialists	3,960	6,894	10,854
6. Rural Educational Coordinator	1,320	1,525	2,845
7. Editor	-	800	800
8. Instructional Materials Officer	780	872	1,652
9. University Advisors	900	800	1,700
10. Instructional Supervisors	1,680	2,040	3,720
11. Teacher Aides	-	960	960
12. Principal Teachers (2)	120	-	120
13. Community Skilled Persons	432	-	432
14. Programmed Teachers	1,816	-	1,816

	Solo	Cebu	Total
B. Travel	560*	1,083*	1,643*
1. Cebu-Manila tickets	320	363	683
2. Per diems	240	500	740
3. Miscellaneous	-	220	220
II. Research Support			
A. Staff	5,100*	8,897*	13,997*
1. Secretaries/Typists	1,260	2,977	4,237
2. Printers	840	1,525	2,365
3. Illustrators	840	2,505	3,345
4. Collactors/Binders	-	1,090	1,090
5. Driver/Mechanic	600	800	1,400
6. Messenger	360	-	360
7. Guard	360	-	360
8. Proofreaders	840	-	840
B. Services	500*	550*	1,050*
Communications	500	550	1,050
C. Supplies	21,500*	13,266*	34,766*
1. Printing of Materials	1,000	4,180	5,180
2. Report Publications	3,000	726	3,726
3. Paper for Instructional Materials	14,000	3,850	17,850
4. Office Supplies	1,000	1,210	2 210
5. Miscellaneous Instructional Materials	2,000	3,300	5,300
6. Graphic Arts	500	-	500
D. Equipment	3,000*	1,056*	4,056*
1. Equipment and vehicle maintenance	1,000	1,056	2,056
2. General Equipment	2,000	-	2,000
E. Miscellaneous Expenditures	-	945*	945*
TOTAL	46,888	47,854	94,742

Year VII July 1979-June 1980

	Solo	Cebu	Total
I. Research			
A. Staff	7,694*	20,032*	27,726*
1. Project Director	1,170	6,752	7,922
2. Project Associate	1,050	-	1,050
3. Instructional Methods Expert	390	1,119	1,509
4. Education Analyst	-	1,119	1,119
5. Subject Specialists	1,680	4,515	6,195
6. Rural Education Coordinators	660	1,678	2,338
7. Editor	-	880	880
8. Instructional Materials Officer	390	965	1,355
9. University Advisors	450	800	1,250
10. Instructional Supervisors	420	2,244	2,664
11. Teacher Aides	-	960	960
12. Principal Teachers	60	-	60
13. Community Skilled Persons	216	-	216
14. Programmed Teachers	908	-	908
B. Travel and Subsistence	380*	1,082*	1,462*
1. Plane tickets	160	400	560
2. Per diems	120	540	620
3. Miscellaneous	-	242	242
II. Research Support			
A. Staff	2,600*	9,789*	12,389*
1. Secretaries/Typists	630	3,275	3,905
2. Printers	420	1,678	2,098
3. Illustrators	420	2,756	3,176
4. Collators/Binders	-	1,200	1,200
5. Driver/Mechanic	300	880	1,180
6. Messenger	180	-	180
7. Guard	180	-	180
8. Proofreaders	420	-	420

	Solo	Cebu	Total
B. Services	250*	605*	855*
Communications	250	605	855
C. Supplies	10,750*	15,600*	26,350*
1. Printing of Materials	500	5,600	6,100
2. Report Publications	1,500	800	2,300
3. Paper for Instructional Materials	7,700	4,235	11,935
4. Office Supplies	500	1,335	1,835
5. Miscellaneous Inst. Materials	1,000	3,630	4,630
6. Graphic Arts	250	-	250
D. Equipment	1,500*	1,162*	2,662*
1. Equipment and vehicle maintenance	500	1,162	1,662
2. General Equipment	1,000	-	
E. Miscellaneous Expenses		1,040*	1,040*
TOTAL	$ 23,344	$ 48,765	$ 72,109
TOTAL FOR 4 YEARS	$185,410	$185,279	$370,689

Solo Budget is only through December 1979

A P P E N D I C E S

A. INNOTECH Center and Project Staffs

B. Host Country Contributions

B-1 PHILIPPINES - Host Country Contributions

B-2 INDONESIA - Host Country Contributions

C. Observations by Robert Jacobs

C-1 Report of visit to Project IMPACT Solo, Indonesia by Robert Jacobs, August 1975

C-2 Report of visit to Project IMPACT Cebu, Philippines by Robert Jacobs, September 1975

C-3 Report of visit to Project IMPACT Solo, Indonesia by Robert Jacobs October 13-16, 1975

C-4 Remarks made to the Staffs of Project IMPACT and Project ISOS, Cebu, Philippines by Robert W. Smail, October 28, 1975

D-1 Project IMPACT Working Paper No.1,Evaluation and Remediation for 100 per cent Mastery

D-2 Project IMPACT Working Paper No.2 Learning How to Learn

D-3 Project IMPACT Working Paper No.3 The Community Learning Center

APPENDIX A

STAFF

Center (Bangkok Office)

MR. ORLANDO B. CLAVERIA

Regional INNOTECH Center Officer-In-Charge

Field Staffs

PHILIPPINES

Naga Project IMPACT Staff

Project Director	Dr. Rosetta F. Mante
Education Analyst	Mr. Leandro P. Sanchez
Instructional Methods Expert	Mrs. Aida L. Pasigna
Subject Specialists:	
Language 1-3	Mrs. Bibiana Conde
Language 4-6	Miss Norma Sellon
Reading 1-3	Miss Rebecca Belleza
Reading 4-6	Mrs. Lourdes Orat
Pilipino 1-3	Mrs. Domiana Latonio
Pilipino 4-6	Miss Restituta Sanchez
Mathematics 1-3	Mr. Aquelles Cabarrubias
Mathematics 4-6	Mr. Abner Barriga
Science	Miss Rosa Rosos
Social Studies	Mrs. Esperanza Rodrignez
Applied Skills	Mr. Jesus Murillo
Home Economics	Mrs. Romelia Manit
Editor	Mr. Benjamin Montejo
Instructional Materials Officer	Mr. Maximimo Alcoseba
Rural Education Coordinator	Mrs. Carolina Mendiola

Instructional Supervisors:	
Naalad	Miss Porferia Repuno
Pangdan	Mrs. Norma Suarez
Lutac	Mrs. Dalisay Manugas
Balirong	Miss Lolita Tesio
Uling	Mrs. Antonia Rosalita
Teachers:	
Naalad	Mrs. Leonila Navales
	Mrs. Constancia Ubas
Pangdan	Mrs. Virginia Manuel
	Miss Lucena Noel
Lutac	Mrs. Teresita de Leon
	Mrs. Estrella Moncada
Balirong	Mrs. Carolina Abano
	Mrs. Virginia Macalaban
Uling	Mrs. Gregoria Jimenez
	Mrs. Edna Ubas
Support Staff	
Typists	Miss Bernardita Daniot
	Mrs. Ruth Engracia
	Mrs. Leonardo Gabison
	Mrs. Romel Carin
Illustrators	Florentino Calinawan,Jr.
	Julius Go Yanko
	Rubens Carin
Printers	Bienvenido Eborde
	Desiderio Catubig
Collators/Binders	Matildo Bojos
	Edgar Sychico
Driver/Mechanic	Juanito Valmoria

INDONESIA

Solo Project IMPACT Staff

Research Staff

Director	Drs. Boorham Respati
Associate Director	Drs. M. Saleh Muntasir
Instructional Method Expert	Drs. Soehardjo Danusastro
Instructional Materials Officer	Drs. Maryono
Science Specialist	Drs. Lithon Sunyoto
Mathematics Specialist	Drs. Soepardjo
Language Specialist	Drs. Soetadhi W. (Indonesian)
	Drs. Roesydi (Indonesian)
	Soemitro S.H. (Javanese)
Applied Skills Specialists	Drs. Danarto
	Drs. Soeharsono
Social Studies Specialists	Drs. Soeharno Ts.
	Drs. Hananto
Rural Education Coordinators	Drs. Widada
	Mr. Saleh
Instructional Methods Advisor	Drs. Soeharsini Arikunto

Supporting Staff Include:

5	Typists
1	Printer
1	Printers helpers
2	Proofreaders
2	Binders
2	Illustrators (part time)
1	Driver
1	Messenger
1	Guard

School Principals

1.	Mrs. Sudarti SW.	Kebakkramat II.
2.	Mr. S. Miyanto	Kebakkramat III.
3.	Mr. Hadisoemarto	Malanggaten I
4.	Mrs. Siti Salamah	Malanggaten II.

School Principals
(Continued)

5.	Mr. Djatmiko	Alastuwo I
6.	Mr. Darus Salam	Alastuwo II
7.	Mrs. S. Broto Pardio	Banjarharjo

SEVEN VILLAGE TEACHERS ARE INVOLVED IN PROYEK PAMONG:

No.	Name	School	Subject Matter
1.	Mrs. Sukarni	Kebakkramat II	Indonesian
2.	Mr. Soegito		
3.	Mrs. Daryanto		
4.	Mrs. B.S. Suwarso	Kebakkramat III	Applied Skills
5.	Mr. Sugeng		
6.	Mr. Jakim		
7.	Mrs. Sarmini	Malanggaten I	Social Studies
8.	Mrs. Sri Fenty Sularti		
9.	Mrs. Sutjiwati		
10.	Mr. Suradi	Malanggaten II	Social Studies
11.	Mr. Paimantego		
12.	Mrs. Sumiyati		
13.	Mr. Suratno	Alastuwo I	Mathematics
14.	Mrs. Ngatinem		
15.	Mr. Sardiyanto		
16.	Mrs. S. Harnani	Alastuwo II	Javanese
17.	Mr. Sutardi		
18.	Mrs. Widaningsih		
19.	Mr. Supardi	Banjarharjo	Science
20.	Mr. Sukadi		
21.	Mrs. Sri Suharni		
22.	Mrs. Satimah		
23.	Mrs. Sutinah		

APPENDIX B

Host - country contributions

The Ministry of Education and Culture of the Republic of Indonesia and the Department of Education and Culture of The Republic of the Philippines agree to :

a. Insure that the Republic of Indonesia act as a host country to the SEAMEO INNOTECH Project IMPACT.

b. Assist in recruiting for INNOTECH two senior persons to serve as Project Director and Project Associate.

c. Provide a minimum of nine full-time professional staff members, paying base salaries of said members and insuring that they continue to enjoy the basic privileges/rights, salary, tenure, promotion, etc. provided under existing civil service laws and regulation. Professional staff members will be released from other duties to serve the project full-time. The areas of expertise and the duties of the various professional staff member shall be arrived at by common agreement and, as such, need not be specified in this Agreement.

d. Assist in the selection of supporting and secretarial staff.

e. Provide adequate office space, furnishings, maincenance, utilities and telephone for the professional and support staff.

f. Provide gasoline and oil for the operation of project vehicle(s).

g. Assist in the selection of, and coordination with, rural communities as sites for Project IMPACT development and tryout.

h. Act on behalf of the Project in securing the understanding and assistance of local, regional and national offices and authorities.

i. Pay all host country costs associated with the functioning of the Steering Committee.

j. Use its offices to facilitate duty and tax free purchase of equipment.

APPENDIX B-1

PHILIPPINES

Host Country Contribution

Items	July to December 1975
1. Salaries	₱ 57,635.00
2. Rental value of office space	14,000.00
3. Cost of Renovation of office space	14,000.00
4. Gasoline Expenses	2,340.00
5. Telephone Bills	468.00
6. Travel Expenses of Members of the National Steering Committee	1,267.50
7. Local School Board of Naga	13,500.00
8. Value of Man hours served by University Students	3,600.00
9. Service offered by Broadcasting Station DYRC	120.00
10. Assistance from Department of Public Information and National Production Center	500.00
	₱107,430.50

APPENDIX B-2

Host Country Contribution

January through December 1975

Item		
I.	Maintenance & Operation	
	a. Maintenance for vehicle & operation Fuel & oil	Rp 300,000
	Spare parts	Rp 200,000
	b. Maintenance for office building and office machines	Rp 120,000
		Rp 620,000
II.	Furniture & Equipment	Rp 1,000,000
III.	Workshop & Upgrading	Rp 1,500,000
IV.	Office rent	Rp 750,000
		Rp 3,870,000
		(± $9,000 , -)

PROJECT IMPACT

General Observations

by

ROBERT JACOBS

Consultant

I N T R O U C T I O N

Project IMPACT* ia an ambitious undertaking unprecedented in boldness of educational change, in range of components, and in complexity of research design. Although it has been described simply as an experiment to see if primary school objectives can be achieved through non-formal modes which effetively utilize the resources available within a community the complete picture of the project includes self-learning modules; programmed teaching' peer and older student tutoring;parents; resources for learning within the community such as farmers, craftmen, artisans; a Community Learning Center; an Instructional Supervisor; all integrated into a total learning system managed and directed toward attainment by each learner in the system of nationally stated primary school objectives.

When the system with its integrated components is complete and ready for trial, this new delivery system for mass primary eduction will be tested for its:

(a) Manageability - Can the necessary coordination and management of a system with so many components be performed with significantly less professional manpower requirements than demanded by the formal school system; e.g., a teacher-pupil ratio of 1:200 instead of 1:40 ?

(b) Effectiveness - Does quality of learning suffer under such a system - i.e., do IMPACT learners learn as well and as much as do counterpart pupils in the formal system?

* IMPACT is an acronym for Instructional Management by Parents, Community and Teacher. It is a research project sponsored by SEAMEO's Center for Educational Innovation and Technology (INNOTECH).

(c) Economy - Taking all cost factors into account, does the IMPACT system cost significantly less than the formal system? Can more learners be accomodated in the IMPACT system than in the traditional system with the same cost?

(d) Acceptability - No use in developing strains of rice with miracle yields if people refuse to eat the new rice. So with IMPACT: Will a community accept the IMPACT system as a means of implementing or "delivering" primary education? And will the learner stay with it: i.e., is the drop-out rate more or less than in the formal system?

This indeed is an ambitious undertaking of far-ranging importance. So far as is known, nowhere else are attempts being made to answer by research & experimentation such questions as those indicated above for a system so bold and new as IMPACT. Because of its uniqueness and promise this project is moving closer and closer to the center of attention in the international development community. And because of this circumstance, with the prestige of SEAMEO and the reputation of INNOTECH at stake, it is of utmost importance to take all steps possible to assure that IMPACT maintains a high quality level of research endeavor. One such step - and an important one - is keeping up to date on progress, problems and needs as seen both by (1) those working on the "firing line" with day to day problems, and (2) those associated with the project as general observers coordinators/consultants. The weekly progress reports are intended to supply such information from the first source; and reports such as this document make up the second source. The "keeping up to date" is a need of all officers and offices concerned with the project, and it is to that audience this report of personal observations is directed.

The author has visited both IMPACT project sites twice (Naga in Cebu, Philippines and Solo in Indonesia). Also he was worked as a consultant to INNOTECH, the Center responsible for IMPACT, for the past three and half months, viewing IMPACT from the central office position. The observations reported herein, classified under (1) Progress and Accomplishments, (2) Cautions, (3) Problems, and (4) Needs, are based on the exposure described above. Trip reports were prepared following the site visits, and some of the observations in this paper will be re-statements of points made previously, particularly trends or circumstances observed in both sites. It is hoped that these observations will helpful in the on-going planning and implementation of the project.

PROGRESS AND ACCOMPLISHMENTS

In spite of problems still to be solved and in spite of deficiencies that can be noted, the overall record of progress and accomplishment in implementing Project IMPACT is impressive and it deserves first mention in reporting general observations:

1. Within a period of some 20 months the curriculum for the upper three grades in experimental primary schools in selected villages of Cebu, Philippines, and 7 experimental schools in villages near Solo, Indonesia has been organized into self-instructional modules*, and pupils at these grade Levels are using the modules as the primary means of achieving the learning objectives set for the respective subjects and grade levels.

2. A substantial start has been made toward modularization of the curriculum at the first three grade levels (particularly in Cebu) and experimentation is under way with programmed teaching using older students and other community resources (not professionally trained teachers) as a device for teaching beginning reading and numeracy skills. These efforts are directed toward developing approaches which are manageable under the IMPACT system which does not depend on the traditional classroom and/or the professionally trained teacher in the traditional role. There are still many problems to be solved at these beginning learning levels, <u>but a start has been made and experimentation is seriously under way</u>.

*A few of the subjects earmarked for self-instructional modularization in Grade 6 in Solo have not been completed as of this date, and three subjects (religion, arts and physical education) are to be reserved for group instruction.

3. The use of parents to assist the learners, of older children to serve as tutors, and of faster learners (peers) to help slower learners - all representing use of resources within the community - are in the action stages. These actions have been preceded by and supported by carefully planned training sessions to familiarize these intermediaries/resources with what they are to do and how they can go about it. In Cebu, high school students serving as tutors receive credit toward the "community service" requirement for receiving a high school certificate.

4. Although IMPACT is a dramatic and noticeable departure from the traditional ways of "going to school", support of the experimentation is evident at all levels in the experimental locations. This appears to have been accomplished through two strategies: (a) well-planned Acceptance Campaigns through which parents, teachers and administrators were acquainted with the purposes and plans of the project, and (b) careful phasing of the work so that sudden and traumatic changes did not take place. The strategies have worked. There have been no demonstrations on protests against the project; no newspaper campaigns to denounce the new approach; no opposition or foot-dragging from central educational authorities. On the contrary, from backstopping units at high levels within the Ministry/Department of Education (Ministry in Indonesia; Department in the Philippines) down to parents and pupils - with the range of local government officials, intermediate educational authorities,

teachers, administrators, etc., in between - the project has support, yielding freedom to "lose sight of the shores in searching for new oceans."* One can handle over-value this particular asset in trying to implement a project such as IMPACT.

5. Although data collected to date are scattered and therefore inconclusive, all comparative measures in hand indicate that IMPACT learners are doing as well as if not better than learners following the traditional methods of learners following the traditional methods of learning in the traditional primary school. One very noticeable phenomenon when one visits the project sites is the concentration of learners as they do through their modules. Interest and effort are there, quite obvious to the observer. And without exception, when questioned by the visitor, the learners state a preference for the IMPACT system over the way they used to try to learn; i.e., the formal classroom situation.

6. Capable, dedicated project staffs have been recruited in both sites - people well aware of the fact that they are innovators and pioneers of educational change. They are learning as they work and they are working as teams, combining the skills of the programmer (materials writer) with the knowledge and expertise of the subject matter teachers. In areas where they need help, they ask for it. As a result of a request for assistance

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*A quote used by Dr. Soriano, Philippines, in addressing the brainstorming conference on Community Learning Center concepts held at Cebu.

from a programmed teaching expert, one of the outstanding specialists in this field, Dr. Douglas Ellson who formerly worked with the INNOTECH staff in Singapore, is now in Solo advising, training and producing materials to upgrade capability of the project staff to handle this particular strategy for learning. He will also spend some time with the staff in Cebu. But the project staffs in the two sites know what they are doing, are going about it capably and seriously, and have chalked up an admirable output to date.

These "assets" or "pluses" in the IMPACT picture do not constitute a complete listing, but they are among the high points of progress and accomplishment which should temper reactions to problems and deficiencies.

C A U T I O N S

Certain of the observations indicated in the trip reports Prepared by the author were identified as "cautions", i.e, things to guard against. Perhaps it will be useful in this overall report to consolidate and summarize these cautions:

1. IMPACT should be thought of/described/indicated as an experiment - a research project. It is activity designed to test under experimental conditions the effectiveness, the manageability, the cost, and the acceptability of a learning system having the characteristics of IMPACT (these have already been described). Although results to date are encouraging, it is entirely possible that the results of the experiment will turn out to be negative. It is possible, too, that results may indicate the need to change some of the components from their original design in order to develop a suitable model (suitable in terms of the factors being tested).

And it is quite possible that the system as designed will be manageable, effective, economical and acceptable. But these are things which will not be known until the research and the testing are done. The caution is not to pre-judge these possible outcomes or start tampering with the research design on the basis of pre-judging.

A further caution with respect to the nature of the activity is to avoid viewing it as an attempt to do away with schools, or to impose a radially different system of primary education on the SEAMEO countries. It is an experiment - a research project - to find answers to questions. It is true that in the experimental schools the "system" is being changed. That is the only way experiments can be carried out - in laboratories or in controlled experimental situations. But these changes are for the course of the experiment. If the results are favorable - if a workable model is developed - then it will be up to the potential users (SEAMEO countries and others) to decide how and where to use the model - including the countries which are now generously providing experimental sites and allowing changes to take place in those sites to accommodate the design of the experiment. The caution is to keep in mind that the hoped for target of IMPACT is a model learning system which will offer an alternative approach for delivering mass primary education. The target is not adoption of IMPACT by SEAMEO countries, and evaluations of the experiment while it is under way in terms of pre-judgments about its acceptability for adoption should be avoided.

2. As indicated in an earlier portion of this report, phasing of the development of the IMPACT components has been planned so as to avoid sweeping changes coming suddenly. The result has been continuation of many aspects of the traditional, formal school system in the total learning of the IMPACT pupils. Early experimentation with the modules, for example, was actually carried out in the classroom under the direction and management of the regular teacher. The breaking away from dependence on the usual classroom environment and the introduction of intermediaries (parents, tutors, peers, etc.) drawn from the community has been gradual, and still many of the characteristics of the traditional school are to be found in the new system (e.g., grade structure, "in-school vs out-of-school", scheduling, attendance, etc.). Without belaboring the point, the caution sounded in the reports following the site visits concerned the possible "fixing-in" of the orientation toward the present system so that it might interfere with the development of the total, integrated system as concieved in the project design. It is important for everyone all along the line to keep the IMPACT design well within sight and to carry the work through its gradual phases toward that design with minimal lingering of present system orientation getting the learning out of the school into the community. Other INNOTECH research is dealing with systems which depend primarily on the existing schools. IMPACT is a more radical departure which eventually is to operate without dependence on the traditional school or the traditional teacher role. "In-school" orientations and dependencies are characteristics of phasing which will not be carried to the final

product. The caution is to keep this fact in mind and to avoid any setting in of these temporary dependencies on the traditional system. Again, this is to preserve the integrity of the original design to be tested - not to carry on war with or eliminate the traditional school!

3. The language of the modules should be as simple as possible. The English modules in particular might be simplified substantially, by using lower level vocabulary, by incorporating more graphic (pictorial) material, and by utilizing simple sentence and paragraph structures. The caution is for the writers to constantly strive for the simplest ways of expressing ideas and for using words likely to be within the vocabulary range of the target learner. The modules are written to help children learn - not to impress professional contemporaries. There is more implied criticism in that statement than actually warranted in terms of the conscientious efforts of the programmers, but as blunt as it is, it is a good guideline to keep in mind.

4. The hoped - for ratio of 1 professionally trained Instructional Supervisor for every 200 learners may prove to be too ambitious when all the components of the IMPACT system are in the picture and a total, integrated learning system is ready for trail. This cannot be pre-judged, but some of the results of initial experimentation with ways of dealing with the beginning learners suggest that a great deal of the IS's time and attention will have to be devoted to this segment of learners in the system. Actually,

it is the intermediaries - the programmed teachers - who may extend the span of "supervision" beyond manageable limits for the Instructional Supervisor, but this possibility has not been established experimentally as yet. The complete requirements for successful implementation of learning at the Grade 1-3 levels in the IMPACT system are not yet identified, and the practicality of the 1:200 ratio can be judged more accurately when the research at these levels has progressed further. The caution intended at this point, though, is to keep an open mind regarding the exact ratio or span of supervision. There is nothing magic about the 200 figure; if 150 learners, for example, proves to be a more effectively manageable number for one IS to supervise, there will still be dramatic savings in the cost of the delivery system when compared to the traditional 1:35 ratio, other things being equal.

P R O B L E M S

The four principal problems faced by IMPACT at the present stage of development, in the judgment of the author, are as follows:

1. The challenge of developing approaches for implementing learning at the Grade 1-3 levels poses problems as yet unanswered. The greatest challenge, and one which will tax the igenuity and creativity of the project staffs, is how to handle learning at the Grade 1 or beginning level; i.e., handle it in a way that will neither require professional manpower (other than the IS) nor impose cost components (expensive hardware

or large numbers of paid intermediaries) which write off savings in professional manpower. Until the beginning learner masters reading skills at a level which enables him to learn through printed modules (like those used by learners at the Grade 4-6 levels), instructions must be given, content must be transmitted, and learning must be implemented through media other than the printed page on the live teacher (i.e., the professionally trained teacher). Programmed teaching and the use of cassette recordings are being tried. It is possible that the use of other media, such as radio or video tape, may enter the experimentation. But it is now recognized that different kinds of problems must be dealt with and new solutions sought as the development of the IMPACT components moves down to the beginning grade levels. The help of an expert from outside the region has been enlisted to assist the project staffs in coming to grips with this particular cluster of problems, and project personnel are optimistic about finding solutions. Also exchanges of professional personnel between the two project staffs are taking place to pool ideas and share experiences in carrying out the work at this level. But at this point in time, the question of how to fit beginning learning into the IMPACT system without "overload" is an outstanding problem.

2. The problem, or set of problems, indicated in paragraph 1 above is severely complicated by a second major difficulty. In both sites the respective national language policies require teaching of initial reading skills in a language other than the vernacular (the child's native language). In both sites, the use of the local language is permitted for verbal communication "lecturing" or

"teaching" but there are no textbooks or printed materials in the native language and the teaching of reading right from the beginning in the two curricula is in the "national" language. Pilipino is the national language in Cebu while Cebuana is the language of the home; in Solo, Javanese is the native language and Indonesian is the national language.

Actually, the initial IMPACT design stated that "it is culturally, politically and practically necessary that the children be able to read in their own dialects," and the accepted research approach indicated that "an early attempt will be made in the field to use Programmed Teaching methods for learning to read in the local dialect at the 1st grade level". This was repeated in the grant agreement with IDRC, the funding agency, an agreement signed by SEAMES. That document states as one of the objectives of the project "to use in these field centers programmed teaching methods for learning to read in the local dialect at the first grade level". But in spite of these intentions, and in oversight of the agreement, the teaching of beginning reading in both project sites is with the national language (a foreign language to the learner) instead of with the local language. This practice is in deference to the respective national language policies.

It is axiomatic that a child learns better and faster in the medium of the language he has used to interact with others, and to carry out his thought processes. It is a defensible hypothesis that literacy in the national language could be achieved more quickly and more effectively by first attaining literacy in the vernacular and then proceeding to the "foreign" language. And to shroud

all learning in the mystery of a "foreign" language by preparing all Grade 1-3 modules in that language only further complicates the cluster of problems indicated in paragraph 1. This is a serious problem that needs careful attetion, and it is hoped that authorization can be obtained in the two sites to experiment with the sequencing of literacy skills, proceeding from reading ability in the local language to reading skills in the national language. If it can be domonstrated that this actually enhances achievement of the national language policy: i.e., establishing a common national language: certainly it would make the task of fitting approaches and materials for the Grade 1-3 learning into the IMPACT system much less difficult.

3. Although the concept and the role of the Community Learning Center are now in the project development action (still in the planning stage in Solo), the complete identification of the role of this component, and its full utilization are yet to be realized. Part of the problem is that the uniqueness of this new institution and the different kind of role it will serve (when compared with the traditional school) probably will require some corresponding boldness and creativity in design. Buildings should be adapted to programs rather than the other way about. It is likely, though, that because of cost factors, the current actions of having the existing school structures, or rooms in these structures, serve as Community Learning Centers will have to be continued. Ideally, the Community Learning Center as conceived in the IMPACT system will be the institutional base for learning within the community - the central repository and distribution center

for learning resources of all kinds -- modules, programs, hardware, reference and enrichment materials, etc. - It will house the IS; it will be the place where records are kept; it will have space for both small group and individual study and learning and space for larger gatherings of community residents for special events. The problem is how to develop and maintain this kind of community institution without excessive cost. The answer probably lies somewhere between designing and constructing expensive new buildings and simply changing the name of the existing school and placing a new label over the door - "Community Learning Center". Certainly the final model of the IMPACT system should include a set of specifications for the CLS structure which will enable it to effectively carry out its role in the total learning system. The full development of this IMPACT component remains a problem which can, and of course will, be worked out.

4. The fourth major problem faced by INNOTECH is that of financing. The current IDRC grant which covers a major portion of the project costs terminates in June, 1976. Substantial contributions are being made to total costs by the respective host countries, and it is expected that these will be continued. However, IDRC receptivity to a renewal request, or a request for continued support beyond mid-1976, may be influenced by the present uncertainty regarding the sponsoring center's (INNOTECH's) future. It is to be hoped that this uncertainty will be resolved at the January, 1976, meeting of SEAMEO's Council. IMPACT was projected as a 5-year project at the outset, and IDRC was aware of its long-range nature. Time estimates for target accom-

plishments for the 1st two years have proven to be ambitious, and it will take at least six months longer than anticipated to have all components of the system ready for full system try-out. However, it is likely that the 5-year projection can be maintained; i.e., by the end of 5 years sufficient data can be gathered to give definitive answers to the questions being explored in the full-scale try-out of the total system. There is no definite commitment from IDRC to continue financing the project throughout the five years, but it is hoped that favorable consideration will be given to an extension of the grant for at least another two years. Until there is a favorable response from the present donor, however, the matter of financing the project beyond June, 1976, remains a problem.

N E E D S

IMPACT is reaching the stage now where serious cost studies and cost analyses should be started. A cost analyst - someone thoroughly familiar with the variables involved in educational costs and experienced in implementing cost studies - should be recruited soon. No doubt such a person could be found in the SEAMEO countries, but in order to keep project costs down, it might be best to seek an expert from outside the region under a subsidized technical assistance arrangement. Such a specialist could design and implement the needed cost analyses and could train staff members in the relevant techniques so that such work could soon be integrated into the regular project monitoring and project evaluation activities. Action along this line needs to be taken soon.

2. One of the unfortunate casualties suffered by INNOTECH when it was displaced from Saigon was loss for the professional affiliation with the American Institutes for Research (AIR). The latter organization has been associated with INNOTECH right from the start, providing behind-the-scenes professional support and advice which was highly beneficial. Just the fact of having outstanding specialists such as Flanagan, Schwarz, Klaus, Krug, etc., all thinking about the INNOTECH programs, making suggestions, contributing ideas, provided a rich source of professional strength and undergirding. And those AIR people - Short, Ellson, Nathanson, Horst, and Nichols - who worked on the scene as staff members contributed greatly to the success of INNOTECH programs. But the factor of immeasureable value was the professional support and assistance flowing from the affiliation. Because INNOTECH is pioneering new fields of endeavor, because the innovative mind needs constant stimulation, this kind of affiliation is important for awhile longer - to realize the goal of having an experiment center of outstanding quality. Aside from the learning that takes place in working with an organization, such as AIR, the motivation and inspiration which evolves from the kind of relationship which was enjoyed between INNOTECH and AIR are important factor in continuing to plough newground. There is a need for continual injection of new ideas and different points of view which can be met by having experts from a variety of sources, but beyond that there is a need for awhile yet for the more solid, continuous, across the board, professional undergirding supplied unobtrusively by the AIR contractual relationship of the past several years. This undergirding was of particular relevance and significance to Project IMPACT where a

broad idea base and the advice of experts in innovation were so important - and continue to have importance. It is hoped that once INNOTECH's status and location are determined, consideration can be given to renewing the relationship with AIR.

3. The location of experimental sites for IMPACT in two different countries and the attendent interjection of local requirements, conditions, and authorities inevitably creates problems of coordination and of maintaining as overall project design - necessary for comparability of data, development of a generalizable model, and treatment of IMPACT as an INNOTECH project. These problems are not out of hand having been addressed by frequent site visits by the INNOTECH project coordinator and by limited exchange of personnel between the two project staffs. But in addition to these measures, there is a need for periodic group interplay and exchange to assure common understanding and acceptance of project goals and research design. At least annually, the key members of each project staff and key officers in the back-stopping units or offices in the local Ministry/Department of Education should be assembled in a project review conference to address problems, share ideas, and proposed solutions, review goals and procedures, check progress, etc. This kind of participatory involvement in the coordination efforts can develop support, understanding, and acceptance of the endeavor much more quickly and effectively than the individual approaches involved in visits. Both are needed, but the periodic group sharing could add immeasureably to success in maintaining a single project image and insuring the necessary measure of commonality between the two sites for model development and compa-

rability of data. Funds for such periodic meetings could be included in the project grant coverage, or the seminar or short-course portions of Special Funds could occasionally be used for such activities.

4. An additional need relating to project coordination evolves from the continuing demands for time and attention given by the Center itself (INNOTECH) to Project IMPACT. After moving from Saigon and entering a "temporary" phase or characteristic of operations, coordination of Project IMPACT in the two sites has been implemented by the INNOTECH staffmember designated as "Officer-in-Charge". As Officer-in-Charge, this person must handle all the responsibilities formerly assumed by the Center Director. That set of responsibilities constitutes a full time job -- even extra time in the present circumstances. Coordination of IMPACT along with the other set of responsibilities is simply too large a job for one person to handle without severe strain from overload. There is a need to delegate the IMPACT coordination role to a senior staff member other than the Officer-in-Charge: i.e., to divide these two functions, each of which is a full time job if done properly. Perhaps the head of the research division could take over the IMPACT coordination after a period of familiarization. Some of the IMPACT problems need constant attention, and it simply is not possible for one person to provide this need and carry out the broader duties of Officer-in-Charge at the same time.

CONCLUSION

The author cannot conclude this report of overall observations without pointing out again that in spite of the problems, shortcomings, and dangers to guard against covered in these pages, the general picture of Project IMPACT is impressive. The dramatic and exciting dimensions of the activity issue simply from the fact that a new and different approach which breaks away from tradition and past practices is being given serious trial with broad support. This effort to find answers by experimentation to questions which up to now have hindered large-scale implementation of educational change has great promise, and the existence of problems simply serve witness to the fact that action and trial and testing are taking place. The problems can and will be solved, assuming continued support of the experiment, and the results, hopefully a model, alternative learning system for implementing primary education, will be received with great interest by an expectant international audience.

APPENDIX C-1

REPORT OF VISIT TO PROJECT IMPACT SITE
SOLO, INDONESIA

by

Robert Jacobs
INNOTECH Consultant

August 1975

The Solo site of the SEAMEO INNOTECH's major research activity, Project IMPACT, was visited by the author of this report August 6-8, 1975. In Solo, Indonesia, the project is designated as PROYEK PAMONG, and it is one of two sites where INNOTECH's major effort toward developing a new approach for delivery of mass primary education is being carried out. This activity has been identified by INNOTECH as Project IMPACT (Instructional Management by Parents, community and Teachers), and it can be described briefly as an effort to develop a model learning system whereby primary school objectives are achieved through use of modularized, self-learning instructional materials under the management of parents and other community resources, supervised by a professionally trained Instructional Supervisor (teacher) who will work with up to 200 learners in the span of responsibility - as compared with the ordinary, traditional ratio of 30 to 35 pupils to one teacher. Project IMPACT is a response to the mandate given by SEAMEO (The Southeast Asian Ministers of Education Organization) to its center, INNOTECH (The Center for Educational Innovation and Technology) to develop alternative delivery systems for mass primary education. The 2nd site for the project is Naga/Cebu in the Philippines. Although the project has a different name in Indonesia (*PAMONG), a single research design is being followed and basic approaches are similar in the two centers; this is in order to have comparability of data and to produce a single IMAPCT model.

The visit was made in company with the Officer In Charge of INNOTECH's temporary operations in Bangkok, and his separate trip report has dealt with the substantive and administrative issues and problems which formed the principal reasons for the visit. So this report will, in order to avoid duplication, focus on personal observations, more generalized,and based on overall familiarity with the project's concepts, design and operations. The author had an opportunity to visit the Naga site in the Philippines in November, 1974, and a report was prepared presenting observations regarding work in that site. Comparisons will be avoided as much as possible (comparisons serve no useful purpose), but the experience of that visit will of course be drawn upon in reporting observations from the Solo visit.

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* PAMONG is actually the acronym for the Indonesian words corresponding to the English title.

OBSERVATIONS

1. Planning and implementation.

Planning and implementation of Project IMAPCT (Proyek Pamong) in Solo reflect a gradual, if not cautions, approach to the realization of the concepts and elements making up the IMPACT system as conceived in the basic research design (IMPACT Initial Planning Document). This appears to have been motivated not from hesitancy or uncertainty, but from a perceived need to introduce the research into the existing system without undue or hasty disturbance/ unsettlement of administrative regulations and practices, organization of the "school year," utilization of teachers, expectations of parents, etc. - all of these being factors affecting acceptance of the project.

The research is being carried out in seven experimental schools in four villages near Solo. The start was made at the Grade 4 level, as in Naga, but at the beginning only two subjects were modularized in each school - Bahasa Indonesian plus one other subject. (Starts were made toward modularizing all subjects - math, science, geography, civics and history - but in each school only one of these plus Indonesian.) Other subjects were taught as usual. As soon as the pupils were able to handle modularized instruction, learning in the two subject areas was carried out at home under monitorship by parents, and soon after tutoring by older students was introduced. Throughout phase 1 pupils in the experiment attended school for traditional instruction in subjects other than the two modularized and for work on the modules during periods scheduled in the school day for those two subjects. Thus, the teachers functioned as tutors and monitors and traditional teachers at school and, as parents and tutors enterd the system, also as instructional supervisors for "out-of-school" learning. This phase, carried out Sept. - Dec. '74, and corresponding to Trimester III in the organization of the school year, was followed by Phase 2 in Trimester I (January - April '75) when the above process was extended to 4 subjects in each school; and a third phase for work in Trimester II (May - August) will extend coverage to six subjects in each school.

The schedule of module preparation has, of course, had to keep pace with the above plan. As the Grade 4 pupils involved in the experiment in Trimester III moved on into Grade 5, modules at that grade level had to be prepared for them. Actually, the expansion to four subjects in Trimester I was with Grade 5 curriculum to adjust to the promotion of the pupils starting the experiment in the last term of Grade 4. Also, the further expansion to 6 subjects in Trimester II was at the Grade 5 level.

With six subjects modularized, the learning system will shift to heavier reliance upon parents and tutors, allowing the teacher to function more in the role of Instructional Supervisor of all learn-

ing, although three subjects (religion, arts and physical education) will be non-modularized and plans are to continue teaching these three subjects in the traditional manner.

2. Implications of Pamong plan.

Although the planning and implementation of IMPACT in Solo constitute an imaginative strategy for institution of educational change, and may indeed be the most practical way to obtain acceptance of the project in the SOLO situation, there are certain implications relating to attainment of research objectives which may eventually become troublesome. As a matter of fact, there is some evidence that this is occurring now in certain aspects of project planning (to be illustrated later). To be more specific:

Because of the approach now being implemented the project presents the image of being much more like Project RIT (reduction of instructional time within the formal school system) or Project ISOS (combined in-school and out-of-school instruction) than IMPACT, which, as designed, moves away from dependence upon the traditional school and classroom. Furthermore, the observer might easily conclude from viewing the project at this stage that it is more of an experiment with the feasibility and effectiveness of modularized instruction than of utilization of community resources as a delivery system for primary education. As was the case with the observations made by the author following his visit to the Naga site of IMPACT, it is fully realized that observing the project at a particular developmental phase can result in a false picture of the nature of the experiment. And in Solo the work toward the final IMPACT model (the phasing) is even more gradual than in the Philippines. However, as pointed out in the Naga report, there are certain dangers which should not be over-looked.

Doing the research within the formal school system during the early phases demands accommodation of the system to such an extent that some aspects of the basic research design can be unintentionally compromised. For example, IMPACT anticipates "ungraded" progress toward achievement of primary school objectives on the part of the learner. But the phasing of the research, the production of materials, the grouping of learners, etc., are all oriented to grade levels and structures. This can bias and compromise the sequencing of learning experiences, the placement of certain subjects, the continuity of learning blocks, etc., in modularizing the attainment of objectives. It is quite possible, for example, that the objectives to be accomplished at the primary level for mathematics or numeracy skills (as indicated in the Indonesian statement of primary school objectives) could be accomplished within say a single year by creative modularization. But under the present appraoch, there will be modules for mathematics at each of six grade levels and they will probably have grade level labels on them --- not a single set of modules carrying through continuously from beginning/entry level to final attainment of objectives.

Other examples can be cited,such as the constraints placed on self-pacing of learning (contemplated in the IMAPCT design) by having to accommodate the daily schedule of classes, the giving of school exams at the end of each trimester, and the carrying on of traditional and IMPACT instruction at the same time. The faster learners are held back, and the slower learners are pressured to "keep up with the class."

So long as it is clearly recognized and kept in mind by all concerned - and in particular by the project staff - that the present orientation of the research to the formal system is brought on by phasing, and progress toward subsequent phases can be made with the ultimate objectives in mind and with no "fixing in" of present circumstances, the problem stated above can probably be kept under control. The recent effort to differentiate in-school and out-of-school learners, however, suggests that this problem is not entirely under control.

If the focus is on the characteristics of the eventual IMPACT system as described in the project design there is not such circumstance as out-of-school learners separate from in-school learners. There are simply learners in the community who want to pursue learning, or are required to pursue learning (compulsory education laws), leading to the achievement of set primary school objectives. To think in terms of "in-school" learners represents a "fix" on the current situation which is a result of phasing. When the research reaches its advanced stages, the IMPACT system to be tested and tried will be a system whereby learning leading to mastery of primary school objectives will be managed by an Instructional Supervisor operating from a Community Learning Center, supervising a variety of intermediaries drawn from resources within the community itself, open to all learners who seek to achieve these objectives. "In-school/out-of-school" categorizations are fictitious and irrelevant in this system.

Looking beyond the experiment to test the IMPACT system, if this approach to learning proves to be feasible, effective, and economical, it is likely that it will be extended to take into account the needs of other learners (learning objectives other than basic education or primary school objectives). But this would be a matter of extending the services and the outreach of the Community Learning Center, not a matter of "dealing with out-of-school learners."

The relevant quotes from the basic project design are as follows:

> "Primary education is ungraded; progress is indicated by learning modules satisfactorily completed rather then by school lveles (grades)."

> "There are few set class periods. Students are able to drop out and reenter at any time."

> "There are no particular age limits. Except for learning reading skills, studetns need not be encouraged to begin at an early age."

As pointed out in the Naga report, another potential problem prows from the fact that both parents and pupils may be lulled into the belief that IMPACT is simply a new methodology to be tried out in the regular school. The surprise of discovering at the later phases of the project that the place of the "school" and the role of the teacher are drastically altered may have adverse impact on acceptance. Again, the safeguard is clear description of the final "system" characteristics in the early acceptance campaigns and constatn reminders that initial phase circumstances are temporary concomitants of working gradually toward the final construction. And everyone all along the line must keep in mind that Project IMPACT is an experiment - not an attempt to impose a new system. It is a research thrust to find answers through controlled experimentation to questions about the manageability, the effectiveness so far as learning and achievement are concerned, and the comparative costs of a delivery system for mass primary education having the characteristics of IMPACT. If the answers to these questions are promising and favorable, the system can be developed into a model which will be available for use by SEAMEO countries (and others) as appropriate and as determined by each country.

These observations may seem to be over-emphasis or over-statement of the inderent dangers in phasing, and may also appear to be critical of the phasing approach followed in Solo. Certainly they are not intended to be criticisms; and if there is over-emphasis, the intention is to urge persiscent setting of sights on the final target and to unsettle any fixing of the characteristics of early phasing. And this leads appropriately to the next observation, namely:

3. The project staff.

Proyek Pamong staffing per se is dealt with in the trip report prepared by the Officer In Charge. Without repeating this aspect of his report, it was evident that the Solo staff, as was the case with the Cebu staff,is dedicated, enthusiastic and hard working. They believe in what they are doing and take obvious pride in being a part of the Project IMPACT experiment. This attitude and motivation is infectious, reaching down to the teachers and learners involved in the current stages of the project and impressing the visitor. The project and the staff enjoy excellent support from the Office for Educational and Cultural Research (BP3K) in the Ministry of Education. Whatever uncertainty or misunderstanding which may have existed at one time with regard to lines of direction and guidance to INNOTECH and to BP3K appear to have been resolved by a memorandum of agreement between these two entities signed in June, 1975, spelling out the respective roles of each. The details of this agreement are covered in the report of the Officer In Charge. The important point is that it has been accepted as a mutually agreeable working arrangement whereby the project in the Solo site is managed jointly by BP3K and INNOTECH under guidelines which are understood and accepted by the project staff and the two parties involved in the joint management.

4. Attendance was scattered at the schoosl visited in Solo because of annual inter-school athletic competitions on the day of the visits. But those pupils in attendance in the experimental classes were busy with the learning modules. For the most part, the pupils were working outside the classroom, usually under the shelter of the porch roof of the school building, and there was also a trend toward working in groups rather than individually. This is probably encouraged, unintentionally, by the combination of modularized instruction and traditional instruction in the daily schedule. The pupils are in a traditional classroom situation just before taking up the modularized subject, and they return to the traditional classroom situation for the next subject right after the period for the modularized subject. Working in groups is not necessarily bad if it results naturally in peer assistance, although it can possibly create some insecurity if and when the pupil tries to deal with his learning tasks alone - without the support of the group. It was not possible for the author to communicate with the pupils except through an interpreter. The modules are printed in the local language and English has not been introduced into the curriculum at the grade levels of the experiment. Responses obtained through interpreters indicate that the pupils find their new learning tasks and approaches interesting and they seem to like the way they are going about it. However, as hinted above, the work in groups, the scheduling, the staying close to the school building, all tend to give the impression of "being at school" - of the project being an in-school project. One interesting variation from this theme that was noted was the carrying of modules to the athletic field where some pupils were working at their modules while watching the football game. Also, the visitors were advised that those pupils who had learned how to handle themodules took them home in the evening to carry out learning outside the classroom with direction from their parents. This will be the general pattern, as indicated in the section on planning and implementation, as soon as all subjects are modularized and all pupils are able to handle modularized learning on their own (i.e., without the help of the classroom teacher).

5. <u>The modules</u>.

Since the modules in the Solo site are printed in Bahasa Indonesian, a language unfamiliar to the author, it was not possible to make any evaluations of methodology, format, or simplicity of language and/or vocabulary. The modules observed appeared to rely heavily on the printed word with little use of pictorial or graphic material. This may have been a characteristic of the particular sampling seen, but the reluctant use of media other than words was noted also in observing the modules in the Naga site, and it is perhaps a common deficiency that might be remedied by technical advice from an audiovisual specialist who has worked with programmed instruction. The frequently quoted adage that "a picture replaces a thousand words" is significantly applicable to the task of preparing self-learning materials.

Module preparation is proceding generally in the Solo site on the following schedule:

Trimester II, 1975

Revise/reproduce modules for Grade IV, increasing from 2 subjects to 4 subjects in each school.
Revise/reproduce modules for Grade V, increasing from 4 to 6 subjects in each school

Trimester III, 1975

Implement Grade IV modules (6 subjects) and Grade V modules (66 subjects) and on basis of feedback revise/reproduce for use in Trimester I, 1976.
Construct/produce Grade VI modules for six subjects for Trimester I, 1976.
Form task force for designing Grades I - 3 programmed teaching modules. Hopefully, these materials will be ready for tryout in the late months of 1975.

Following this schedule, by 1976 Grade 5 children will have had experience with 2 subjects modularized in Grade 4 during Trimesters I and II, 1975, and with 4 subjects in Grade 4 during Trimester III, 1975. Grade VI pupils, by 1976, will have learned by using modules since September, 1974, and in all six subjects for Trimester III, 1975. However, with the task still remaining of designing, testing, revising, and finally deciding upon the best approach for dealing with the beginning or entry level learners (Grade 1), the second task of developing materials for Grades 2 and 3, and, finally, completing all subjects for Grade 4, it is doubtful that the complete pattern of IMPACT modules will be ready for full trial as a system by June, 1976, as originally planned. Other supporting components, such as use of parents and tutors and training of these intermediaries, appear to be well in hand in the planning and activities fo PAMONG. But there is still to be worked out (1) the development of the community learning center concept, and (2) the handling of the three subjects which have been reserved for group instruction. More about these two points later, but the pertinent observation is that a more realistic time frame needs to be worked out for having the IMPACT components ready to test in full-scale, system try-out at Solo. This will have considerable bearing on future project funding.

6. The Community Learning Center.

The Community Learning Center concept which is an integral part of the Project IMPACT design seems not to have figured prominently in the planning and implementation of Proyek PAMONG in Solo as yet. This fact is perhaps the root of the problems which have arisen with respect to "in-school/out-of-school" categorizations. And this division of learners into "in-school" groups and "out-of-school"

groups is reflected in the planning documents prepared at Solo, presummably based on the basic IMPACT design. Such references as "adaptation of in-school modules for out-of-school children," and "whereas alternative programs could be taken in the special treatment for out-of-school children" bespeak this sense of separation. Even in referring to the demonstration year, or the year in which the total IMPACT components are tried out as a system, it is stated that "one IS will manage about 200 children in-school as well as out-of-school." There is a definite implication that Project IMPACT is a school based or "in-school" learning system -for which or in which out-of-school learners might receive some benefit, but meanwhile remaining under the classification of "out-of-school" learners. This is not meant to be criticism, but is said simply to highlight and illustrate the fact that development of the Community Learning Center concept has yet to appear in the Proyek PAMONG work.

If the original IMPACT design is followed, in the system to be tested a new and different kind of institutional structure or "home" for learning replaces the traditional school as it now operates. It may or it may not work; it may or it may not prove to be manageable; it may or it may not prove to be economical or effective. But these things will not be known until the system is tested. And it cannot be tested as designed unless the Community Learning Center concept is brought into the picture. And as pointed out earlier in this paper, under the Community Learning Center concept there is no such circumstance as "in-school" learners. In a very real sense, every learner becomes an "out-of-school" learner, for there is no "school" as it is known and as it operates today. Instead there are learners who are pursuing learning experiences leading to the mastery of nationally determined primary school objectives; who are not "enrolled" at certain "grade levels" in a "school",but who are learning on their own (self-instructional modules) with the assistance of intermediaries within their own communities, using the resources of a Community Learning Center, and carrying out their learning under the management of a professionally trained Instructional Supervisor who supervises up to 200 such learners (and the intermediaries involved) and who operates from the Community Learning Center. Thus, the model which is being tested, the experiment which is under way, is an attempt to determine if the primary school objectives can be achieved effectively, economically, and acceptably by utilizing primarily non-formal modes of learning which do not depend upon the "school" and the "teacher" as they have operated in the past. And the Community Learning Center (CLS) concept plays a very important role in and is a very important component of the system which is to be tested.

At the Naga site, a "brain-storming" conference was held, involving some of the outstanding community education and primary education specialists in the Philippines, to draw together a pool of ideas as to what the CLS should look like, how it should operate, how it should be designed, staffed, equipped, and so on.

At the experimental sites schools and classrooms are now being converted into Community Learning Centers on an experimental basis and under gradual transition which will avoid the frequently negative impact of sudden change.

Perhaps it would be useful to follow this pattern in Solo, studying the "idea pool" produced by the Naga conference as a basis for preliminary "working papers" with a view toward developing workable approaches to the CLS concept within the Indonesian (Solo) situation. Work of some sort along these lines would seem to be appropriate and timely. It is the opinion of the author that many of the perceived problems regarding in-school vs out-of-school learners and learning might disappear if this is done. Admittedly, all of those now labeled "out-of-school" learners in the Solo site may not be interested in pursuing learning leading to attainment of primary school objectives. No doubt the range of interests and needs is much broader in this group as a whole. But IMPACT is an experiment to develop a model for mass primary education, and in this particular experiment that focus must be kept. The utilization of modularized instruction with the assistance of persons in the community as a system for meeting learning interests and needs other than the achievement of primary school objectives is a definite possibility, but it is a different project - one that is well worth tackling as a separate experiment. But IMPACT has its focus on learners who either desire on their own to "complete" a primary education, or are required by compulsory education laws to pursue "primary school" learning. And this is a common group not to be differentiated by "in-school" and "out-of-school" categorizations.

7. Non-experimental subjects

Apparently right from the beginning it was agreed that three of the subjects in the primary curriculum would not be included in the self-learning modularization. These three are Religion, Arts, and Physical Education.

Because of the exclusion from "module-writing" coverage, these subjects have been treated in the planning as the parts of the curriculum which would continue to be taught in the traditional manner, and in fact this very statement appears in the PAMONG planning documents - "to be taught traditionally at school."

Two points need to be made. First of all, the treatment of these subjects in the IMPACT system as described in the paragraph next above conflicts with all that has been said about the "in-school" vs the CLS structures in the section on "The Community Learning Center." There is an implication that the traditional school will continue to exist with all subjects other than the non-experimental ones taught with self-instructional modules, and with the three mentioned taught traditionally. Where is the CLS concept? How does the 200 to 1 IS/learner ratio apply? How can IMPACT address the entire range of primary school objectives with three important parts of the curriculum excluded?

The second point is that modularized instruction and self-instruction are not synonymous terms. There can be modularized group instruction, e.g., programmed teaching,as well as modularized self-instruction. Modularization is segmentation; i.e., breaking the curriculum down into well-organized segments or learning tasks or sets of tasks. The task or set of tasks can be pursued sometimes more effectively through group activity than through group activity than through individual or self-learning activity.

Putting these two points together, it is suggested that thought needs to be given as to how the objectives for the three "non-experimental" subjects can be achieved under the IMPACT system, using community resources as intermediaries, combining group and self-learning, utilizing the CLS resources, and making manageable demands on the professional inputs of the IS who is working with up to 200 learners. In other words, it would seem necessary to somehow bring these 3 subjects into the IMPACT system by creative modularization which does not rely so heavily on self-instruction, but which stays within the constraints and resources of the IMPACT model. And this certainly is not an impossible task. It is even possible that there are "institutional" resources within the community,such as religious institutions, as well as persons such as artisans and craftsmen who can be programmed into the system to avoid the requirement that these 3 subjects be taught in the traditional manner in the traditional school.

8. Programmed teaching.

The schedule of module preparation set up for 1975 in Solo anticipated the start of work on modules for the Grades 1 - 3 levels in September. It was proposed to set up a Task Force to tackle this part of the work, bringing into the project additional specialists who might be able to deal with the special problems of the beginning learning level.

Actually there are two aspects of the materials preparation at this level which make this phase of the work quite different from the module preparation at the higher grade levels. One of these is the requirement of understanding of and sensitivity to the more limited range of experience, the "childish" interests and motivations, and the thinking and behavior patterns of the early age learners. Understanding of learning theory and just plain understanding of children at the 6-7 year age range are needed, along with programming skills, as a unique requirement for materials preparation at the entry level.

A second aspect of the work at this level which poses a serious problem to the staff working heretofore at the upper grade levels is the fact that the programmer cannot communicate with the learner through the media of the printed work. He has not yet learned to read. Therefore, instructions on how to deal with the module must be transmitted through media other than the printed page. This limitation applies, of course, only until the learner masters reading in the language of the modules.

The problem stated above might be dealt with by concentrating entirely on the teaching of reading at first and not dealing with any other part of the curriculum until this learning task is successfully completed. This would vary from the scheduling and sequencing now set for Grade 1, but it is a solution to be considered. Any other solution will call for the use of audio media in the modularization of instruction in other subjects - until reading skills are mastered.

In any event, the teaching of reading will have to utilize approaches which do not require receiving instruction from the printed page. The staff at Solo has decided upon programmed teaching as the device for dealing with this problem, and has requested INNOTECH to provide technical assistance in making the start and for training of staff in the techniques of materials preparation for programmed teaching. Remembering the successful experiment conducted by Dr. Douglas Ellson in using programmed teaching for the teaching or reading in Bahasa Malaysian in Jahore during the time he was with INNOTECH in Singapore, the Solo staff and BP3K specifically asked for this man to provide the necessary assistance. Fortunately, a representative of the RED office in Bangkok (the Office of Regional Development Affairs which has been providing technical experts for several of the SEAMEO projects) was in the visiting party at Solo, and the request was sympathetically received. Subsequently, RED agreed to seek the services of Dr. Ellson for a 2-month period to work with the Solo staff on the problems of creating effective learning materials at the beginning level, dealing specifically with programmed teaching techniques. (At the request of the INNOTECH Officer In Charge, it was agreed that Dr. Ellson would also spend part of his time with the staff in Naga for some in-service training.)

There are problems to be worked out at the beginning level other than the techniques for teaching reading; e.g., obtaining the early childhood learning expertise needed - hopefully suitable Asians; and deciding about the sequencing of learning - such as, teach reading before anything else is taught, etc. But it is likely that the answers will begin to fall into place as the staff gets into the work at this level. With respect to the beginning learning expertise, it was suggested in Solo that the Filipino staff member who has been assisting with the Grade 1 materials preparation in Naga might be loaned to the Solo staff for awhile to help with this aspect of the work.

9. Postlude.

The visit to the Solo site of IMPACT left the author with an impression similar to the reaction reported after the Naga visit. An experiment of far-ranging import is seriously under way with broad support at all levels, with serious effort by the learners in the experiment, and with dedicated in-puts by the staff and

teachers involved. The fact that problems occur only indicates that action is taking place. It is the impression of the author that the efforts to deal with "out-of-school" learners, even though initially misguided in terms of IMPACT basic design, served the very valuable purpose of defining clearly just how those not now reached by the formal school system might be given opportunity to learn. Furthermore, both community and BP3K interest in this group has been mobilized to the point that something may be done for them as a separate endeavor, using some of the IMPACT approaches. A thorough census of the "out-of-school" gorup has been made in Solo and there is interest in following up with a canvass of specific learning needs and interests. All of this is simply evidence that Project IMPACT is making an impact.

Visits to the two sites have served to impress on the author the fact that it is not possible to follow exactly the same approaches or the same schedule in two different countries in pursuing a particular project design. Some accommodation of differing administrative structures, regulatory frameworks, community attitudes, etc. must be made. At the same time, it is also evident that support of the SEAMEO purpose and common cause makes it possible to work out such accommodations without either compromise of overall project design or loss of good working relationships between Center (INNOTECH) and Project (local site) staffs.

The author wishes to express grateful appreciation to Dr. Soemitro, BP3K, and to Mr. Boorham Respati and his staff for the hospitality and many courtesies extended during his visit to Indonesia.

APPENDIX C-2

REPORT OF VISIT TO PROJECT IMPACT SITE
CEBU, PHILIPPINES

by

Robert Jacobs
INNOTECH Consultant

September, 1975

INTRODUCTION

The Naga site of Project IMPACT* in Cebu, Philippines was visited in September by the author of this report in company with the INNOTECH Officer-In-Charge, Mr. Orlando B. Claveria, and Miss Marjorie Wheatley, Program Officer from the East Asia Regional Development Office, AID/Washington. This was the second visit to this site made by the author, the first being in November, 1974. Observations based on that visit were presented in a paper which was circulated in December of that year. So, in a sense, this is a follow-up report drawn from Naga re-visited almost a year later.

Descriptions of IMPACT and its relationships to INNOTECH and the SEAMEO development programs for the 1970's now appear in several INNOTECH documents, so it is not necessary to go into this background for the majority of readers of this report. Those few who may not be familiar with Project IMPACT can obtain the background documents from INNOTECH, C/O SEAMES, 920 Sukhumvit Road, Bangkok, Thailand.

Although the primary purpose of the visit to the Philippines was to work for a short time in the Naga IMPACT location, at the time of the trip the Department of Education in the Philippines was carrying out explorations to prepare for a possible request from SEAMEO to consider hosting INNOTECH. At the initial meeting with officers of the Department, prior to leaving Manila for Cebu, the visitors were requested by the

Department of Education. The firstpart of this report deals with that activity; the second with observations regarding IMPACT/Cebu.

POTENTIAL INNOTECH SITES

Our explorations were focused on three potential sites: Baguio, Cebu and Los Banos.

In Baguio we inspected the physical facilities identified as the Teachers' Camp. Since these facilities are used only a few weeks each year there is no problem of disturbed occupancy should they be offered as a new home for INNOTECH. However, because the camp is used only occasionally the facilities do not enjoy continuous maintenance and they would require renovation. There are buildings which could provide adequate and comfortable space for offices, classrooms, assembly, and conference rooms without major remodeling, though as with most of the buildings some renovation would be required. Housing accommodations for staff and trainees at this site, however, are less promising. Operating as a camp, this conference complex has dormitories housing 15-20 persons in one room, all sharing the same toilet facilities - which are commodious but lacking privacy. There are scattered cottages on the site for housing of staff, but these buildings, too, are designed to accommodate 5-6 persons each sharing common toilet facilities.

Although a determination would have to be made by an architect or an engineer, it was our opinion that it would be both difficult and expensive to transform the existing housing facilities at the camp into space which would be acceptable for housing INNOTECH trainees and staff most of whom are educators in key positions and at senior levels in the SEAMEO countries. INNOTECH would want to provide a reasonable degree of

privacy and comfort for these persons, as do the other SEAMEO centers. Arrangements might be made for housing trainees and staff in hotels and/or apartments in the community to overcome this shortcoming of the site.

There are other factors which generate some reservations about Baguio. One is to climate - the long rainy season and attendant discomfort. The other is the distance of Baguio from the departments and agencies in Manila with which INNOTECH would be dealing on a fairly constant basis. Apparently there are problems of transportation which would represent constraints to flexible travel plans. We were not able, for example, to get seats on any flight to Baguio the day we were to make the visit, and had to drive by auto. It is a very interesting drive, but tiring, and the mountain roads are somewhat hazardous. Transport and communication could become troublesome problems with INNOTECH located in Baguio.

As indicated earlier, the primary purpose of our visit to Cebu was to review progress of Project IMPACT and to confer with project officers concerning certain operational matters. However, when the possibility of establishing INNOTECH permanently in that location was mentioned, an immediate and dramatic mobilization of interest and enthusiasm was triggered. The Governor's Office, the Office of the Mayor of Cebu City, the office of the Regional Director of Education the Superintendent of Schools in Cebu City, the Superintendent of Cebu Normal College, and officers in the local PTA all went into action to demonstrate a solid, unified front of support for this prospect. Meetings to discuss the requirements and responsibilities of hosting INNOTECH front-staged the IMPACT business so that we had difficulty in responding

effectively to the eagerness to learn about INNOTECH's requirements in moving to a new home and at the same time carrying on the planned review of IMPACT at the Cebu site. But the significant fact is that in Cebu INNOTECH could flourish in a climate of community and professional support extending from the Governor's Office down to its citizenry. No acceptance campaign would be necessary. INNOTECH is wanted - even eagerly sought - in Cebu.

No specific sites were suggested for inspection in Cebu, but the plan which was proposed for consideration by the Vice-Governor was supplying of land by the local government and construction of physical facilities by the national government. We were shown the Applied Nutrition Training Center, an attractive and efficiently planned complex of offices, classrooms and housing accommodations constructed in 90 days from pre-fabricated cement modules (box-shaped units) 7.35 metres by 18 metres. Six such pre-fab units were arranged in a functional design to accommodate the physical space requirements of the nutrition center, at a total cost of 225,000 pesos (roughly $30,000), including foundations, wiring, plumbing, etc. Without going into details, a very quick and rough estimate of the cost of providing facilities for INNOTECH using this scheme, taking into account even the staff and trainee housing requirements, resulted in a figure of roughly $35,000 to $40,000. And a new home for the Center which would be both attractive and comfortable could be provided within 90 days after construction started. Such a plan would have distinct advantages over remodeling existing structures by virtue of the fact that the unique requirements of INNOTECH's operations could be incorporated in the basic design. In other words the physical facilities could be adapted to INNOTECH's needs rather than adapting INNOTECH's needs to existing physical facilities. And

the cost of remodeling structures such as those inspected in Baguio would undoubtedly exceed the cost of the new, modularized construction.

Cebu has the disadvantage of being located some distance from Manila, but transportation seems to be easier - more frequent flights - and telephone communication with Manila is quick, easy and inexpensive. One aspect of transportation and communication, namely contact and interaction with the Project IMPACT staff, would of course be much easier in Cebu and would in the long run cancel out part of the operational cost which might be added by locating INNOTECH at some distance from Manila.

The climate in Cebu is quite comfortable and the setting of a scenic island removed from the hustle, bustle and distracting elements of the big city are additional attractive features of Cebu as a possible site for INNOTECH. But perhaps the most valuable asset in this location would be the strong measure of support the Center would enjoy from virtually all elements in the community, including willingness to experiment and try the new, exhibited by educators, parents and pupils alike. As suggested above, INNOTECH would flourish and continue to enjoy its dynamic growth and impact in Cebu.

We were not able to travel to Los Banos in the time available for our visit, but Dr. Saguiguit graciously consented to come to Manila to discuss with us the support which SEARCA is prepared to give to INNOTECH should it move to the Philippines. Dr. Saguiguit indicated that SEARCA could and would provide physical accommodations for INNOTECH to carry on temporary operations in Los Banos, and could also make provision, if asked to, to house INNOTECH permanently at Los Banos. Administrative arrangements were not discussed, but presumably INNOTECH

would carry on its programs as an autonomous SEAMEO Center separate from SEARCA under either temporary or permanent establishment in Los Banos. Beyond this, wherever INNOTECH might be settled in the Philippines, SEARCA is prepared to give the Center any and all support and assistance possible, including help with the processing of arrangements for privileges and immunities, the obtaining of financial support, and so on. The generous and supportive attitude toward helping this sister center is motivated, according to Dr. Saguiguit, not only by the spirit of cooperation which permeates SEAMEO, but also by belief in the worth and potential value and benefit of the INNOTECH programs. Although there is no specific proposal to evaluate with respect to a future site for INNOTECH in Los Banos, this location remains an alternative to consider, and it has in its favor reasonable proximity to Manila and the interest and support INNOTECH would enjoy from its elder sister, SEARCA.

Taking all factors into account which were within the range of our recent exploration, the author would tend to favor the Cebu site among the three sites considered. The reasons for this are indicated in the preceding paragraphs describing the situation in Cebu and need not be repeated. Further, it would appear to be a feasible and economical procedure for provision of facilities to follow the pre-fab construction scheme utilized by the Applied Nutrition Training Center. If at a later date some external donor shows interest in providing more auspicious physical facilities for INNOTECH (and this is a very likely prospect), such planning can be carried forward. But for the next several years (3 to 5 years) INNOTECH could effectively carry out its programs in space such as that which houses the Nutrition Training Center and would have a home of which it could be proud.

For temporary operations while the location in Cebu is being readied, should this site indeed be chosen, the offer of SEARCA could be accepted to permit an immediate transfer of INNOTECH to the Philippines without loss of program continuity.

The author cannot conclude these observations about potential INNOTECH sites without commenting on an outstanding and very obvious dimension of the explorations in the Philippines. This is the exceptional climate of interest and support experienced by the visitors at all levels and at all points of contact in the Republic with regard to INNOTECH and its programs. It apparently reflects a strong professional interest and a national inclination toward experimentation, toward welcoming of the new and the different. These are the environmental pre-requisites for successful operation of projects like IMPACT and ISOS - and projects such as these are the core of INNOTECH's efforts to serve the SEAMEO countries.

There appears to be no doubt that INNOTECH would enjoy a healthy and vigorously supportive climate for its operations if located in the Philippines.

APPENDIX C-3

TRIP REPORT

Visit to Indonesia

October 13-16, 1975

Robert Jacobs

Dr. Douglas Ellson, specialist in programmed teaching, arrived in Bangkok on October 11, 1975, to start a 2½ month period of work with the Project IMPACT staffs. After briefings at SEAMES and INNOTECH, Dr. Ellson went to Indonesia in company with Mr. Claveria, Officer-In-Charge of INNOTECH and Dr. Jacobs, INNOTECH Consultant. It was intended to work out understandings and agreements regarding the kind of assistance Dr. Ellson will give, the timing of his work in the two sites, and the necessary supporting authorities and counterpart relationships for effective professional inputs during the period of service. (Dr. Ellson worked with INNOTECH for two years when the Center was carrying on interim operations in Singapore, and as a result is thoroughly familiar with INNOTECH operational philosophy and generally acquainted with education and educational problems in SE Asia. Further, he conducted, with the assistance of INNOTECH interns, a successful experiment in teaching beginning reading in Bahasa Malaysia in Jahore, using programmed teaching techniques and non-professionally trained "teachers." Because of this very little of the 2½ months he can spend with the project will need to be devoted to learning about the project.)

The party of Ellson, Claveria and Jacobs was joined in Djakarta by a staff member from Project IMPACT, Cebu, Mrs. Aida Pasigna. Mrs. Pasigna came to Indonesia under a staff personnel exchange arrangement agreed to previously, expecting to see project operations in Solo firsthand, observe Dr. Ellson's technical assistance inputs, and assist in the planning of the work at the Grade 1-3 levels in any ways the project staff and Dr. Ellson might think appropriate. Her stay in

Indonesia, under the exchange arrangement, was limited to two weeks. Mrs. Pasigna is the specialist for beginning learning materials preparation on the Cebu project staff, and the work in the latter site has progressed further at the lower grade levels than in Solo. Therefore, it was thought that the Solo staff might benefit from the Cebu experience through inputs Mrs. Pasigna might make during the period of her exchange tour.

The group met first with Mr. Soemitro, BP3K, the officer designated by Dr. Setijadi, Chairman of BP3K, as the principal liaison person in the Ministry of Education dealing with Proyek Pamong (the name given IMPACT in Indonesia). A warm welcome was given Dr. Ellson, and Mr. Soemitro indicated his view that the project staff in Solo needed advice and assistance in preparing materials for beginning learners in the IMPACT system, and that help with introduction and development of programmed teaching techniques was required in particular. When Dr. Ellson suggested that authority to change some of the existing methodology and practice might be needed for adequate experimentation, he was advised that any such requirements could be presented through the project staff and Mr. Soemitro would be glad to take such requests to the Steering Committee. Since Mr. Soemitro was planning to come to Solo to participate in the introductory meetings, most of the time with BP3K was spent with logistics - visa extensions, permit to work with the schools and school officials in Solo, handling of per diem payments, etc.

Upon arrival in Solo it was found that some work had been done on a preliminary model for teaching reading, but that in general the staff had been waiting for Dr. Ellson to help with the start of work at the lower grade levels. The report of the experiment in Jahore, Malaysia

(Ellson's project using programmed teaching approaches for teaching beginning reading in Bahasa Malaysia) had been translated into Indonesian, and the PAMONG staff had worked out a tentative approach for teaching reading in Solo modeled closely after the Jahore experiment. It was suggested that Dr. Ellson might start by reviewing this model and giving his reactions.

The staff reported that a tentative decision had been made to integrate all of the Grade 1 curriculum into two subject areas for programmed teaching - these being reading and arithmetic or numbers. Dr. Ellson seemed pleased with this decision and indicated that he would like to have a look at the curriculum and objectives, and also the materials preparation work that had been done at the upper grade levels before starting in with the beginning learning work.

It was found that, as in Naga, the curriculum calls for teaching beginning reading in a language foreign to the learner when he starts school. The language of the home is Javanese, but beginning reading is taught in Bahasa Indonesia. Dr. Ellson seemed a bit uneasy with this requirement, having done most of his very extensive experimentation with programmed teaching by associating written symbols with <u>familiar</u> sounds and <u>familiar</u> vocabulary. He did not consider it to be an insurmountable problem, but viewed it as imposition of an obstacle of considerable proportions on the learner.

When Mr. Soemitro arrived in Solo he reported that BP3K had run into difficulty in getting a letter of authorization for Dr. Ellson to work in the village schools. Ordinarily such clearance is obtained <u>before</u> a foreigner arrives in Indonesia for work requiring such a

permit; and the authorities needed more time than anticipated by BP3K to effect the clearance. Soemitro advised that an inspection trip to the experimental schools would not be questioned, and that perhaps up to 2 more visits might be made without the clearance. But until the letter of authorization comes and that might be late in the designated tour of 6 weeks - Ellson would not be able to work on site with programmed teachers. Since the PAMONG staff plans to use selected 4th grade pupils as programmed teachers, this will be a handicap, but it was hoped that procedures could be worked out whereby Dr. Ellson would make his principal inputs at the staff level in Solo headquarters, and the staff would do the training and experimental work at the sites. It is possible, too, that the clearance will come through faster than anticipated. Mrs. Pasigna was advised that clearance for her would not be needed since she is "INNOTECH staff" on a personnel exchange visit.

It was agreed that Dr. Ellson would work for a continuous period of weeks in Solo and would then spend two weeks in the Naga, Cebu site in completing his 2 months of service.

All concerned heartily welcomed Dr. Ellson and are looking forward eagerly to his help and assistance. He in turn appeared to be challenged by the task he confronts and is tremendously interested in the project. His work with the IMPACT staffs will undoubtedly be a milestone in the development of the project.

APPENDIX C-4

REMARKS MADE TO THE STAFFS OF PROJECT IMPACT AND PROJECT ISOS, CEBU CITY

BY : Robert W. Smail, SEAMEO Consultant

DATE: October 28, 1975

As indicated by Dr. Robert Jacobs in his trip report of February, 1975, Project IMPACT is an experimental study in Management of Instruction-Management by school authorities, Parents, Community Members and Teachers. These aspects of management and participation were very evident to me in my brief visit to the project and the schools cooperating in the project.

Several impressive aspects of management related to instruction were noted:

1. An organized sequence of instruction is in existence and is being followed.

2. Reports of pupil progress are picked up daily and are compiled into a published weekly report.

3. Reports of problems are also made and supervisory level assistance is made available almost immediately.

4. The "community" was in evidence in the program through constructing learning stations at each of the cooperating schools visited. Further the supporting community of the Teachers College, Cebu was expanding the physical space allocated to the headquarters of IMPACT/ISOSA at the time of my visit.

5. Frequent pre-tests and post tests provide feed-back and consolidation both to the learner and to the manager of the learning system.

6. The unsung heroes of the management system are the pupils themselves. There is little doubt that they accept the responsibility for the individual self-study portions of the program and for peer group tutoring.

There were several instances of observed boredom or indolence in the small groups at work on the campuses visited, but probably not any more than would be found in visiting traditionally instructed classrooms.

"Management" to me tends to imply an organization of behavior which

can be directed toward an objective, and I was pleased to note the prominent display of Dr. Albarracin's statement that "Work is the Core of our Curriculum". To be efficient, "work" must be "managed." So, realizing that such words as "efficiency", "savings", and "economy", are basic to management one must say that the core learning efforts observed were well served by the system. They are efficient, economical, and, apparently do save time and money.

During the visit to the several schools, however, there were a few occurrences that tended to bother me, and these tend to defy management, as such, and probably could be discounted as the plight of the humanist, in view of the larger benefits to society which will emerge from the management experiment.

For example, on one campus three adult members of the community were constructing a "learning station", while 30 feet away three or four fifth grade boys were studying some mimeographed modules on social studies, Philipino, or whatever. Was there something or someone lacking in the system which could have turned the building exercise into a real learning experience for those boys?

At another school, at noon time recess, a bulldozer slowly clattered past the school. Most of the children rushed over to look and to listen. This would have presented a wonderful ad-hoc lesson on a number of topics-work-sight-sound-language-physics-ecology. However, with the reduced teaching force there was no teacher on the play ground; the High School students who were to serve as subject tutors had to return to their classes, and a real learning experience appears to have been lost. I believe that in some way the project can be enriched if such opportunities of impromptu lessons can be accommodated.

At another school I asked a fifth grade group to read to me. They were beautifully able to sound out the words. However, when I asked a direct question related to the reading none of the children wished to respond. Shyness with strangers due to rural isolation is probably the primary cause of the observed reticence. One of the best ways to overcome shyness is in group participation-choral groups, music groups, athletic groups, and, my question here is, does Impact provide enough security through group participation to bring forth the Philippine tradition of individual expression of self?

Management of the instructional program is needed, to be true, but it is usually that extra ordinary experience a child encounters, under the guidance of an interested adult which turns him into a path of individualism. Is there any way that this can be salvaged within Impact?

The above remarks or observations, again, may sound negative toward IMPACT. They are not meant to be. However, they do raise several questions about the management system which will need answering if the experiment is to fully serve South East Asia as an educational system. A two way communication system is needed in which the learners' questions of "how" and "why" are explained to them.

The traditional use of the school as a socializing agent needs some consideration. These may well be covered in non Impact parts of the curriculum. They do need some acknowledgement.

Project ISOS - (In School-Out of School)

Only one school cooperating on the ISOS program was visited, and the observer would be imprudent to make too many observations from that visit. The following come to mind as general and specific observations:

1. The practice of giving on Monday all post-tests on units covered during the previous week appears to place a rather heavy burden on children's abilities to assimilate, organize and write about material covered during the previous week. One would suspect that the need to study for Monday's tests disrupts family weekends and takes valuable recreation time from the students themselves. An alternative might be to have mastery tests on Fridays for the O-S group, leaving the weekend free, or possibily, staggering the mastery tests throughout the I-S week for the different subjects.

2. The conception of ISOS as an administrative cost saving device is bound to lead to resistance on the part of the employed teaching staff if the work load of each teacher is to be doubled. In the classes visited the teacher was held responsible for the instruction of double the normal class size, and for all subjects, including home economics and agriculture. In the normal classrooms, in the school visited, teachers have a free period, and specialized teachers handle instruction in home economics and agriculture. It would appear that ISOS will succeed, if and only if the daily work load of the ISOS Teachers is not much greater than that of regular teachers. This can be achieved with an arranged free period during which instruction of ISOS groups is conducted by the home-economics and agriculture teachers. Probably there should be out of school modules on these subjects as well.

To one who believes strongly in the need for a friendly, informed, interested and available adult as the appropriate guide for children's learning, the ISOS appears to have great potentiality as a management system.

The following might provide additional insights for Project authorities in ISOS and IMPACT.

1. Comparative studies between IMPACT and ISOS results in achievement will yield useful information.

2. Increased efforts to determine the degree of involvement of parents/community in ISOS would provide better bases of comparability between the systems.

3. A greatly enriched, and more accessible learning environment for both IMPACT and ISOS Schools - Public libraries, or publicized school libraries would be a step in the direction of equalizing educational opportunity between rural and urban communities.

4. Finally, one must take to heart the admonition of the psychologist who said "play is the work of the child", and while he was speaking of younger children, one does recall also that "all work and no play makes Jack a dull boy". And it would appear that some more opportunity for organized group activities including play might benefit both systems.

While we are quoting people may I state that I am reminded in my present situation today of the old American Indian Chief who said "I shall not judge a man until I have walked in his moccasins for three moons". So if in my short visit I appear to be prejudicial in my statements, please pardon me. These are not meant negatively.

Finally, I have been personnaly pleased to note that the project is making use of the old ICA-NEC Materials Production equipment. Thank you for your hospitality. The trip to IMPACT/ISOS has for me been most interesting.

APPENDIX D-1

Project IMPACT
- Working Paper -
No. 1

EVALUATION AND REMEDIATION FOR 100 PER CENT MASTERY
25 April 1974

A key concept of Project IMPACT learning is that all children will reach 100 per cent achievement. Learning is modular, ungraded and self-paced, and each child will achieve all the objectives of a given module before going on to another module. This level of achievement may seem unnecessarily severe on the surface, but since much learning is sequential the effects of less than 100 per cent achievement can be magnified over time because a child may not have the prerequisite knowledge necessary to successfully learn later modules.

Traditional methods of teaching are not so demanding on achievement levels because of the flexibility provided by the teacher. A child who is unprepared for a given lesson (does not have the presequisite knowledge) can usually be given individual help by the teacher at any time during a class. The IMPACT system, however, typically does not allow the flexibility provided by a classroom teacher, and children should possess prerequisite knowledge and skills before they undertake a given module.

Although severe, this insistance on 100 per cent mastery is a blessing in disquise because overall achievement levels of IMPACT students, almost by definition, should exceed those of students in a traditional school system. The topic of this paper, "Evaluation and Remediation", describes the process by which mastery is to be achieved.

There are three evaluation and remediation processes: (1) Self-evaluation and Self-remediation, (2) Tutorial-evaluation and Tutorial-remediation and (3) Teacher-evaluation and Teacher-remediation.

1. Self-evaluation and Self-remediation

Self-instructional modules can take many forms, e.g.

.... Programmed texts
.... work books
.... flash cards

.... instructions for group activities
.... instructions for applied skills learning
.... etc.

But, whatever forms modules may take, they have common characteristics:

a) Requires at least 3 hours to complete*
b) Contains "chunks" or units of learning, each of which requires no more than 30 minutes to one hour to complete.
c) Gives the purpose (reason for learning) for the overall module and for each "chunk" within the module.
d) Gives explicit instructions (how to learn) for both the overall module and the chunks.
e) Presents explicit objectives (what is to be learned) at both modular and chunk levels.
f) Intersperses the learning experience with frequent opportunities for student response and feedback.
g) Summarizes (at both chunk and module levels) the most important things that have been learned -- insuring that these are consistent with the stated objectives.
h) At both chunk and module levels, gives a very comprehensive post-test, followed by a presentation of correct responses, followed by instructions by which a student can improve his understanding/skills which were shown inadequate in the post-test. It is this portion of the module that is described as Self-Evaluation and Self-remediation.

The forms that self-remediation can take may vary

(1) A student may be referred to specific pages in a module for relearning.
(2) An explanation of why a given response is more appropriate may be given with the response.

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* A necessary requirement of the instructional management system for high student: teacher ratios.

(3) A student may be told to ask a peers' or older student's help.
(4) A student may be directed to go to the learning center and ask one of the tutors (older students who devote one hour each day-to tutorial activities). Tutors, however, usually are only available in after-school hours and may not be assessible at the time a student requires help.
(5) Rarely, the student may be told to go to the teacher ("Instructional Supervisor") who is in the learning center throughout the day.

The above possible types of remediation are at both the chunk and module levels of instruction and probably will come close to insuring mastery. A more-formal evaluation and remediation is given by the tutor at the module level (below).

2. Tutorial-evaluation and Tutorial--remediation

Tutors are older students who have been trained to administer formal modular post-tests, to score them and to remediate as necessary. In addition to being trained and to being supervised by the Instructional Supervisor, the tutors are provided with explicit instructions (guides) on how to score post-test exercises and how to assist a student in the remediation of those things inadequately learned.

Three notes:
(1) We anticipate a student: tutor ratio of some 5:1. Since each student will be available only one hour each day, the average daily contact (on a one-to-one basis) with a student is only 12 minutes. This limited time is the primary reason who the tutor works at the module level and why each module is at least three hours in length. Thus, a student would be expected to complete a module per day and to go to his tutor daily. (Students who progress at a faster pace will be encouraged to do so; they will be given a module in a different subject matter which they can work on while waiting for his scheduled tutorial time for taking the post-test on the module previously completed.

(2) The basic IMPACT concept of children studying on their own (possibly at home) and going to the house of his tutor (a neighboring older student) remains a possibility, but more likely students will study at the learning center (one big study hall) unless required to be home or away, and tutors all will report for one hour after school hours to the learning center where they can share tutorial and learning center responsibilities, insuring that a tutor is always available when a student is ready for module-level evaluation and remediation.

(At this juncture, we have only referred to tutors who are in post-primary school. At another time we will consider older primary school students as tutors or programmed teachers for younger children. In this case the one-hour-after-school rule need not apply; they could be scheduled throughout the day.)

Centralizing all activities at the Learning Centre should help the management system as run by the Instructional Supervisor a good deal.

(3) This paper is concerned with means for achieving mastery. The self-instructional process described early will, in itself, come close to insuring mastery. In addition, modules will be evaluated and revised throughout the IMPACT experiment so that they will eventually provide even more effective instruction. In the early going, students may go to tutors unprepared to take post-tests because they have hurried through their modules. The tutorial remediation process described below should, by its demands on students, tend to encourage them to be sure of their own mastery before going to their tutors.

Tutors will have three general avenues for remediation, depending upon the level of mastery a child exhibits on his module post-test. Although we should expect that students will have no less than 80 per cent mastery once they have been through the self-instructional process, tutorial procedures for less than that level will be made explicit. In general:

If post-test mastery <u>exceeds 70 per cent</u>, the tutor (following his guide for the module under consideration) remediates on a one-to-one tutorial basis helping his

student relearn those instructional portions for which his knowledge/skill was shown to be inadequate on the post-test. Typically his guide would instruct him to go over and explain those specific portions of the module not well understood. Once he is convinced that the student understands a remediated portion, he would present the student with a supplementary post-test exercise (often asking a verbal question) to insure himself that mastery is achieved. By remediating, portio by portion, a 100 per cent level of mastery would thus be achieved. (Module mastery would then be reported to the learning center so that the student can undertake a subsequent module.)

If post-test mastery falls between 50 and 70 per cent, the tutor (following his guide for the module under consideration) would not remediate on a one-to one tutorial basis because it would be to time-consuming. Rather, he would assign specific portions of the module to be thoroughly reviewed by the student by himself. However, the tutor would explain how to do each of the assigned portions because we now suspect that many errors will arise from improperly understood procedural instructions. The student would return to the tutor (probably the next day), would take the same post-test again and would be remediated on specific items as above.

If post-test mastery falls below 50 per cent, the tutor would require the student to repeat the complete module. He would, however, explain how to do the module, ask the student about difficulties and try to overcome them. On repeating the complete module, the student would be required to repeat the post-test and to follow the remediation procedures outlined above.

In the same way that "chunks" are combined into modules, modules are put together as "blocks". A block contains approximately 5 modules of instruction plus a short review module of all essential learning within the block. We feel that periodic review of this nature is highly important for retention. The review module is treated like the other modules in that the tutor administers a post-test followed by appropriate remediation.

A further post test for the complete block is given under the direct supervision of the Instructional Supervisor in the Learning Center. This block post test is comprehensive,

covering all essential learning contained in the modules making up the block. It represents some one to two months of learning of a given subject under the traditional system. And it is here that the final evaluation and remediation takes place which insures 100 per cent mastery. Because it is administered under the direct supervision of the Instructional Supervisor, we are calling it for convenience:

3. Teacher-evaluation and Teacher-remediation

The Instructional Supervisor is responsible for some 200 students. Assuming that she works 360 minutes (6 hours) per day and that one-third her time is given over to supervision and management rather than to instruction/remediation, she will have $\frac{2}{3}$ time X $\frac{360 \text{ min. X 5 days}}{200 \text{ students}}$ minutes available per student per week: some 6 minutes per student. (Not much time for instruction). We should also assume that each student will complete one block per week and that the Instructional Supervisors will be responsible for block post-test (evaluation) and re-instruction (remediation) for the block. If we further assume that older students are assigned to the Learning Center as both tutors and aides, many of the block post-test duties can be carried out by them: administration and scoring of block-post tests and giving remediation as directed by the Instructional Supervisor.

Note: The block post-test is the "final examination". It is the main means provided the Instructional Supervisor to monitor the progress of students (and the effectiveness of particular tutors). When we get some sort of contingency management system operating for tutors, it also will be the main criteria for tutor evaluation/reward.

We would expect that after the earlier instruction, review and evaluation/remediation at the many levels that there would be little call for remediation at the block level. Some children undoubtedly will require no remediation at all, and the Instructional Supervisor need only allow a small portion of her "six minutes" to giving congratulations and social rewards (such as making the child's progress in front of all in the Learning Center). Thus, more time will be available for students in more need of remediation.

Having checked post-test results and (again following an explicit guide provided her) the Instructional Supervisor will have a number of remediation avenues open to her. Should a child fail on very few exercises, she should take her time to help them (again giving alternative post-test exercises to insure that mastery has been achieved). If a greater level of failure is evidenced, she would turn the student over to one of the Center Aides for one-to-one remediation (using an explicit guide), but once the aide is convinced that mastery is achieved, it would be the Instructional Supervisor's responsibility to verify mastery.

WE ARE CONVINCED THAT 100 PER CENT MASTERY CAN BE ACHIEVED

BY ALL STUDENTS IN PROJECT IMPACT

APPENDIX D-2

PROJECT IMPACT
- Working Paper -
No. 2

LEARNING HOW TO LEARN
26 April 1974

Those who are familiar with some of the original Project IMPACT concepts will remember the story of Moa Lia (a hypothetical newspaper report made in 1980 describing the experiences of a student, Moa Lia, in the IMPACT educational system). Moa Lia told the reporter that before beginning an instructional module he had to "learn how to learn;" he had to learn the procedures to follow for any given module. The report also said that the prime means for learning how to learn was a cassette player which was used in conjunction with the module simply to explain what process he was to follow, and he could replay the cassette until he was sure what he was supposed to do.

It is not a bad idea to use some form of standardized instructions which can be understood by all children (as shown by the difficulties students are having in tryouts in both Project IMPACT and Project RIT -- because they have to learn an instructional process entirely new to them.) Instructions are printed in each module and staff members ("Teachers") take time to explain the process, but kids often end up confused.

However, the use of a cassette for each module in Project IMPACT is mathematically/economically impossible. We have projected one cassette player (plus one spare) per 200 children. The player would, on the average, be available to a given student less than two minutes each day (360 min + 200 students). We also have considered the use of the player for other instructional purposes (e.g. spoken larguage).

I propose to combine two possible solutions, but staff comments are requested.

First, add one more player ($25 - $35) per 200 students.

Second (and more important) standardize formats of modules. This suggestion by on means should be interpreted as one which would do away with the variety of learning experiences which is necessary both to maintain a high interest level ("learning is fun rather than boring") and to allow the development of what we consider to be the most effective instructional process for a given set of educational objectives.

What is recommended, however, is that the format for each given kind of learning process be standardized. For example:

... All small-step linear programs should have the same general format. The sequence through the programmed text should be the same, feedback is always found in the same relation to frames, etc.

... Short paragraphs followed by questions/feedback should always follow the same format.

... Picturials and accompanying response/feedback sequences should follow the same format.

... The procedures in the use of flip-cards or flash-cards should be the same for all.

... Following instructions as a means for applied skill training (usually involving a community member as "teacher") should be as standardized as possible.

... Small-group or buddy-system learning should follow similar procedural rules.

... Use of cassette players and workbooks should have great process similarity.

... etc., etc.

There can be perhaps 20 or 30 such module types -- not the 1200 or so modules needed for the complete primary curriculum. Students, thus could learn the module types and not be confused when they meet the same type again.

How to "learn how to learn" the different module types? My suggestion is to prepare a practice module which is very simple while containing all the elements of the full-blown module. Use as content some fun (and funny) topics with an easily identifiable character. The character for each practice module should be different so that one type can be identified as a "Charlie Brown", another as "Felix the Cat," another as "Popeye", another as "Gordo", etc. Once learned, a "Gordo" type will be remembered as a "Gordo" and each full-blown module of this type should be thus identified (perhaps with a small picture plus name of the character in a corner of the cover).

Each child will have access to all practice modules and be able to review them at any time.

Original learning of practice module procedures probably still should be assisted by a cassette which the children follow while going through the module. They should also be encouraged to ask anyone in the learning center (including classmates) if they are unsure how to procede. At the time of module post-test and remediation (by tutors), the tutors should be instructed to make sure that each child has "learned how to learn."

APPENDIX D-3

Project IMPACT
Working Paper #3

THE COMMUNITY LEARNING CENTER

December 1974

An Initial Planning Document was produced in April 1973 that outlined some characteristics of the Community Learning Center (CLC) concept:

1. An Instructional Supervisor represents the only institutionally trained professional educator. The traditional teacher's role is eliminated, and the Instructional Supervisor acts as a manager of instruction providing the needed direction and organization in the use of a variety of learning resources. One Instructional Supervisor should be able to manage the instruction of 200 primary students.

2. Community members with particular skills (carpentry, home-making, agriculture, health, religion, etc.) are enlisted to provide specialized instruction. They probably are unpaid volunteers who have been recruited by the Instructional Supervisor on the basis of a survey of community resources in relation to educational needs.

3. Other community members, who are primary school graduates, would be trained by the Instructional Supervisor to conduct specific courses, i.e. beginning reading on a part time basis. Their training would be very specific to the course they teach, and they probably would function as programmed teachers. Some could assist in the operation of the community learning centre, including record keeping and evaluating student progress.

4. Older students would all be expected to assist younger students through tutorials and remedial instruction. They would be unpaid.

5. Parents would be trained to monitor the instructional activities of their own children and be expected to take responsibility for their children's progress. Students and parents jointly would be self-directed in terms of student progress, age of beginning formal education and age of completion.

6. There probably would be no particular age limits. Except for learning reading skills, students would not be encouraged to begin at an early age.

7. Education would be modular, each learning module covering the amount of instruction that would normally take one to two weeks. Each module would be designed for the learning of specific educational objectives and would contain both a readiness test and a post-test.

8. Many modules would be in the form of individualized instructional packages. Students typically would seek tutorial help from assigned older students whenever they experience difficulty.

9. Some learning modules would be in the form of small group instruction under the direction of teacher's aides from the community. Others would be tied to instructional radio programmes.

10. Printed modular materials would be reusable by other students as soon as they are completed by those who progress more rapidly.

11. There would be very few set class periods. Students would be able to drop out and reenter at any time.

12. Primary education would be ungraded; progress would be indicated by learning modules satisfactorily completed rather than by school levels (grades).

13. All materials and records would be maintained in the community learning centre.

As we have gained more experience in the field, the concept of the Community Learning Center has taken on more substance, and we have been able to focus in greater detail on the variety of learning activities supported by the CLC... and we have been able to focus on real situations in nine rural communities in the Philippines and Indonesia. The meetings being held this month (December 1974) in the two countries should result in greater definition through the thoughtful involvement of all persons associated with the project.

We have all felt a bit frustrated by not being able to implement the IMPACT system throughout the primary level at the start so that we could see the total system in action. However, we have adopted a progressive phasing, gaining experience with one aspect of it before moving on to the next. For example, we started with only two subjects in the 4th

grade, have now moved on to all subjects in the 4th grade. In 1975 the 5th grade will be included; in 1976 the 6th grade; and in 1977 the 1st through 3rd grades. It will be at that time (1977) that the CLC can be seen in full operation.

Our deliberations on the Community Learning Center also should result in a phasing in direct support of project phasing. However, it probably would be more profitable to picture first how the CLC will be operating in 1977 before suggesting a phasing plan for its implementation.

* * * * * * * *

LEARNING ACTIVITIES (M1-150)

Students (of whatever age) first come to the CLC speaking a local dialect only. One of the main responsibilities of the CLC at this point is to teach reading of the local dialect. By being able to read as early as possible, a variety of learning activities requiring some ability to read will then be available to the students. Assuming that the Ministries will allow the project flexibility in when a given objectives are learned, most of the learning in the first 150 modules could concentrate on reading in the local dialect. (The content of what is read could cover other subject areas, including numeracy.)

How are new IMPACT students to learn? It would seem that the most obvious learning resource would be older students (probably those in M 751-900). They would be some five years older and could be trained as "programmed teachers* and tutors" for the beginning students. As programmed teachers, they would have been taught the skills (and supplied with the necessary instructional materials) to teach small groups of children, tailoring their activities to individual needs.

It is suggested that each programmed teacher devote ½ hour a day to teaching or tutoring M1-150 students. Assuming...

... equal numbers in M1-150 and M 751-900

... 3 hours of M 1-150 instruction per day

... small programmed teaching groups of 7-8 children could be held throughout the day plus making one M 751-900 student available at all times for individual tutoring and remedial help.

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* See the INNOTECH report on Programmed Teaching.

Programmed teaching need not always be class instruction; it could involve games, pictures, cassettes, radio, etc. (Since the primary instruction will be language, we should think about radio very seriously. Programmed teacher preparation and workbooks in support of radio instruction could insure a high quality of learning. The project could simulate radio instruction using cassettes. The use of radio, rather than cassettes, in actual IMPACT operations would not allow instruction to be self-paced or ungraded, but this aspect of the system probably is not crucial during the first year of primary learning.)

Requirements placed upon the Instructional Supervisor would include:

... Training programmed teachers (probably during the last week of vacation). We should recognize that, once IMPACT is in operation for a number of years, the requirements for training will lessen somewhat because programmed teaching will become a familiar feature of the CLC.

... Arranging for compatible groupings of the M 1-150 students (the CLC should provide procedures and criteria for grouping, e.g., older students together, probable ability levels together, etc.)

... Transfering M 1-150 students to new groups (again following reasonable CLC procedures and criteria).

... Scheduling M 751-900 programmed teachers to the different groups.

... Rescheduling when needed, e.g., absence of a given programmed teacher.

... Arranging for periodic evaluation of student progress.

... Scheduling programmed tutors to give one-to-one remediation to special cases.

... Insuring the operability of radios or cassettes (batteries, tapes, etc.).

... Volunteer parents could assist, but the Instructional Supervisor would have to solicit, train and schedule volunteer help.

... Monitoring the activities of programmed teaching groups. Again volunteer parents could assist if they are provided with clear instructions.

... Maintaining a progress chart of program teaching groups so that the programmed teachers can be interchanged (replacing

each other).

... Scheduling playground activities of students in programmed teaching groups in relation to those of other groups.

... Providing all necessary instructional materials and aids on schedule.

... Arranging for follow-up visits to parents of absentees.

... Providing a reward system (usually social rewards) for individual achievements.

... Providing a reward system for programmed teachers and tutors.

... etc.

Requirements placed upon the Community Learning Center would include

... Rooms (or areas) for the conduct of small group programmed teaching sessions (with an enrolment of approximately 30 M 1-150 students, four rooms or teaching areas would be needed.) (When we finish our thinking about the variety of learning activities probable/possible in M 1-900, some kind of flexible space design may suggest itself.)

... Space for one-to-one tutorials (or one-to-two or one-to-three). Probably one or two such spaces would be adequate.

... Storage for radios, cassettes, etc.

... Playground activities appropriate for the probable M 1-150 age group.

... Organized storage for instructional materials (modules), programmed teacher guides and programmed tutor guides.

... Provision of blackboards, chalk, erasers for each programmed teaching area.

... Provision of other programmed teaching aids, e.g., flannel boards, etc.

... Student records and progress charts.

... Space for the training of some 30 programmed teachers for one week.

... Provision of space and materials for rewarding activities to give incentive for M 1-150 achievement.

... etc.

> Note: Utilizing M 751-900 students as programmed teachers will require their regular attendance at the learning center. Although this attendance need not be for the full "school" day (they would only be needed as programmed teachers for ½ hour each day), their own learning activities in the M 751-900 series often will require lengthier attendance. A short discussion of attendance will be presented toward the end of this paper.

LEARNING ACTIVITIES (M 151-300)

Since reading remains so crucial to later IMPACT learning (witness the need for extensive reading remediation that we have experienced in starting IMPACT at the 4th grade level), language probably should remain the priority topic in M 151-300. Language studies could include (a) advanced reading in the local dialect, using other subjects for content, (science, social studies, etc.); (b) listening and speaking in the "language of instruction" (the assumption is that the language of instruction in Indonesia is Bahasa Indonesia and in the Philippines is English beginning at approximately Module 451 ... and that language studies in Pilipino begin also at the M 451 level.) Probably simple arithmetic also should begin somewhere in the M 151-300 series.

Programmed teaching would continue, possibly for one-half of learning. Students would be placed in more accurate ability groupings so that the several groups could proceed at their own rate (some completing M 300 earlier than others and able to move into the 301-450 series). (We suggest that the programmed teachers be drawn from students who are in the M 451-600 series ... equivalent to the present 4th grade ... rather than the M 601-750 series. Thus we propose:

Programmed Teachers	Students
M 751-900	M 1-150
M 451-600	M 151-300
M 601-750	M 301-450

The rationale: (1) The most advanced students (M 751-900) should act as programmed teachers for beginning students (M 1-150) because greater maturity will be required to start students in the system. (2) It would be unwise to have programmed teachers only one series above those being taught because age groupings will overlap a great deal, and there may be some loss of respect for programmed teachers if ages are too close.)

If programmed teaching utilizes only one-half of the time of the M 451-600 students, the remainder of their approximately ½ hour per day could be used for individual tutoring and remediation. The M 151-30 students should now be undertaking some unsupervised learning using simple modules in the local dialect. The older (M 451-600) students, thus, could evaluate (post-test) individual progress and remediate their deficiencies much in the same way that they themselves are being tutored by secondary school students.

So the picture of M 151-300 learning could be:

... One-half time in programmed teaching groups (grouped by ability levels so that they could progress at different rates)

... One-half time in other learning activities following simple instructions in the local dialect and being individually tutored by M 451-600 students. These activities could include some self-instruction, more small peer group learning in which the more able can help the least able, games, cassettes (children can be taught to operate cassette players), etc... a start now being made toward the modular system being used by the older primary students.

Requirements placed upon the Instructional Supervisor would be similar to those for supporting learning activities of M 1-150 student ... and would include:

... Training M 451-600 students as programmed teachers.

... Training 451-600 students as tutors.

... Arranging for ability level groupings of M 151-300 students for programmed teaching.

... Arranging for peer study groups so that the more able can assist the less able.

... Scheduling (& rescheduling) M 451-600 programmed teacher.

... Scheduling M 451-600 tutors and M 151-300 student.

... Arranging for and overseeing evaluation/remediation of student progress.

... Insuring equipment operability.

... Soliciting and scheduling community resource persons and parents to assist in supervision.

... Monitoring the activities of programmed teaching groups.

... Scheduling playground activities.

... Providing instructional materials and aids.

... Arranging for follow-up visits to parents of absentees.

... Providing an incentive/reward system for M 151-300 students and for M 451-600 programmed teachers and tutors.

... etc.

Requirements placed upon the Community Learning Center would include:

... Space for programmed teaching: probably four areas for 7-10 students for each M 151-300 group of approximately thirty students. Each programmed teaching area should be provided with a blackboard and with other teaching aids to be used in programmed teaching, ... again some sort of flexible space designs may be suggested ... multiple-purpose space.

... Space for tutorials (one-to-one up to one-to-three).

... Equipment storage and maintenance.

... Playground activities appropriate for the likely M 151-300 age group.

... Organized storage for instructional materials (modules), programmed teacher guides, tutorial guides, evaluation instruments, etc.)

... Student records and progress charts.

... Space for the training of programmed teachers and tutors

... Space and materials for reward/incentive activities for both students and programmed teachers/tutors.

... etc.

LEARNING ACTIVITIES (M 301-450)

By the time students have reached M 301, they should be quite proficient in reading the local dialect. A number of subjects can be learned via modules in the local dialect. Many such modules can be self-instructional, while others can be peer groups of various sizes, while still

others can make use of community resource persons for the teaching of special skills. Tutorials (evaluation/remediation) would be provided by M 601-750 students.

The language of instruction, for which learning was begun in M 151-300, now takes on a special significance: by the time that students complete Module 450, they must be able to read and converse in the language of instruction. Fully one-third of instructional time probably should be given to the language of instruction with a high priority given to reading.

Learning (other than for reading of the language of instruction) need not take place under programmed teaching or other supervised groups.

Only the first half of modules for reading of the language of instruction need be under programmed teaching; the last half could be modules undertaken outside of programmed teaching or other supervised groups (similar to the 20 modules prepared in the Philippines for the remediation of 3rd grade reading).

It can be estimated from the above that only some 20 per cent of learning in the M 300-450 series would be in supervised groups. Thus, the majority of the M 601-750 students would act as tutors rather than as programmed teachers.

Requirements placed upon the Instructional Supervisor would include

... Training programmed teachers and tutors.

... Making compatible groupings (probably ability/age groupings) of programmed teaching groups.

... Scheduling programmed teachers and tutors.

... Arranging for the evaluation of student progress.

... Recruiting, training and assisting parents in their supervisory roles.

... Monitoring activities and progress of programmed teaching groups.

... Providing instructional materials and aids.

... Arranging to follow up absentees (M 301-450 students and M 601-750 tutors and programmed teachers).

... Providing for incentives/rewards for all participants.

... Arranging for community resource persons to teach special skills.

... etc.

Requirements placed upon the Community Learning Center would include

... A minimum of two programmed teaching spaces for M 301-450 students.

... Space for individual tutorials (some 4-6 would be in use at any time).

... Space for unsupervised peer-group learning with blackboard, table and chairs for 3-6 students (some 6 would be in use at any one time, but the programmed teaching space could be used when not otherwise occupied.

... Space for individual study, probably in a large open study hall in case of rain.

... Materials and aids for programmed teaching.

... Storage for learning materials, equipment, tutor guides, programmed teacher guides, post-tests, etc.

... Records of individual progress.

... Provision for work-oriented education projects (gardens, etc.)

... Provision for incentive/reward activities

... Playground space appropriate to the M 300-450 age group

... etc.

LEARNING ACTIVITIES (M 451-600) (M 601-750) (M 751-900)

Starting with approximately Module 451 the IMPACT system now being tried out at the 4th grade should be in operation. Students who have successfully completed 450 primary education modules should be capable of reading modules in the language of instruction. (Note that the remedial reading programs that we have been forced to undertake during development hopefully would be a thing of the past.)

The sequence of modules from about M 451 to the completion of primary education at M 900 can be truly considered a sequence ... students should be able to progress through modules at their own pace since the forced pace of programmed teaching would have disappeared. Much learning

would be via self-instruction, much would be in peer groups (pairs, trios ... whatever) which would allow students to learn together and support each other. We can expect to see students of about the same ability levels (ingiven subjects) progressing together. Applied skill and social studies learning would be assisted by community resource persons; volunteers would assist at the CLC in supervision, maintenance of records, etc.; parents would be made more strictly responsible for monitoring their own children's progress; etc. More able students could be enlisted to give some time to tutoring their less-able peers and to helping in the operation of the CLC. All students would act as part-time tutors or programmed teachers for students in the M 1-450 series.

One very major change from learning in the earlier modules is that formal tutoring would be done by secondary school students. Quite obviously if the hours of operation of the CLC and the secondary school are approximately the same, formal tutoring at the CLC can only be done if secondary schools are very near a CLC and if secondary students are released to work in the CLC for periods during the school day. (An alternative is to release a secondary student for one full day each two weeks so that the full day could be spent at the CLC.)

> A very exciting alternative is to extend IMPACT through the secondary school and to have secondary school learning take place at the CLC ... central secondary schools could become "centers of excellence" to which students go only once every week or two to take advantage of high-quality facilities for laboratory work and other technical training and to check out books from a well-stocked library. Project staff should explore this possibility with host governments and sponsoring agencies. The students who have started (at "grade 4") in 1974 could be the first wave of a CLC secondary school student body beginning in 1977, progressing through the remainder of their secondary education at the CLC.

If the above alternatives are not available, tutorials will have to take place after secondary school hours when these older students return home. (Happily, the Naga project has found some 60 per cent of primary-level students to have "built in tutors" ... brothers or sisters or parents in their own homes. The Solo project is considering establishing a regular tutorial hour ... 4 p.m. - 5 p.m. ... during which time primary students are expected to visit their tutor each day and to receive a signed attendance slip from the tutor.)

If tutorials could take place at the CLC during regular hours, numerous problems of scheduling and monitoring of tutorials could be avoided. However, we probably should limit ourselves for now to considering learning activities when tutorials must take place away from the CLC after secondary school hours.

On the assumption that a module typically requires some 3-6 hours to complete, each of the approximately 100 students in the M 451-900 sequence would complete one module each day. And each student would require evaluation/remediation at the completion of the module. (See the attached working paper on "evaluation/remediation for 100 per cent mastery".) It is unreasonable to assume that each student will complete only one module each day (which would be contrary to the IMPACT concept of self-pacing) or that each student would complete a module in time for the required tutorial after school hours. We should assume, however, that the majority of modules in a given subject are more-or-less sequential and that a student should not progress to a new module until he has mastered the previous one. The obvious answer for the management of the CLC, therefore, is that a student be given a new module in a different subject until tutorials and remediation are satisfactorily completed in the other subject. This provision can place a burden on the CLC unless it is provided with an easily-managed means for scheduling modules.

What about student time at the CLC? We should apply a criteria to student progress after they reach M 451: (1) that each student maintain a rate of progress compatible with his or her ability, (2) that he or she meet with the tutor periodically (and often), probably daily and (3) that the student share responsibilities at the CLC on schedule ... including programmed teaching and tutoring of younger children.

The above would suggest daily attendance at the CLC unless other circumstances (taking care of home or farm, illness, etc.) make it necessary for the student to be absent. However, the requirements for attendance would be only one-half to one hour per day on a regular schedule related to programmed teaching or tutorial responsibilities.

We would propose, however, that regular "school hour" attendance at the CLC be the norm rather than the exception. Our reasons for this proposal have to do with (1) learning activities, (2) socialization and (3) discipline. Many learning activities may be made both more effective and enjoyable in small peer groups ... a group of friends studying and discussing a given module (even if it can be learned alone). Misunder-

standings can be cleared up without the need for older-age tutors. The potential boredom of continuous self-study also can be avoided. There should be space provision at the CLC for small study groups with chairs, tables and blackboards.

Socialization, although a "fuzzy" concept, has to do with positive interaction with others. Numerous persons have criticized IMPACT for not giving sufficient attention to this aspect of learning. Our answer has always been, "Specify the 'socialization' objectives, and they will be included in the learning activities." Whether or not "socialization" objectives are in the curriculum, they should be provided for. And peer-group activities probably would be the best vehicle for such learning.

Finally, although IMPACT students have been demonstrating that they can learn at home, one wonders how long this enthusiasm for "modules" will last once the newness has worn off. Regularity of attendance should provide the needed discipline so that children are not left entirely on their own (with parental help, of course). (Naga already is reporting parental complaints that they are having difficulty getting their youngsters to study their modules regularly on their own.) The CLC should be a fun center for learning ... that will become more so once adult and non-formal components of the educational process become imbedded in it. And the discipline of regular attendance would be supportive of the CLC becoming the "place to go" in the community.

So - homework (yes), home study when it is necessary to stay home (yes), self-study for adults and working teenagers (yes) ... but some regularly scheduled CLC attendance for the majority of students ... home study as the norm for most students (No!).

Requirements placed upon the Instructional Supervisor would include

... Training tutors

... Scheduling and monitoring tutorials

... Evaluating individual student progress (probably via "block tests*) and arranging for remediation.

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* A "block" is IMPACT terminology for a set of some 4-6 modules on a given topic, the last module being a block review. The block test is very comprehensive and is administered at the CLC.

... Orienting parents and community members

... Enlisting and scheduling parental and community volunteers to assist at the CLC.

... Enlisting and training community resource persons for teaching of special skills.

... Providing learning materials, tutorial guides, parental instructions for each module.

... Following up absentees.

... Maintaining records of supplies, etc.

... Maintaining student progress records.

... Providing rewards/incentives for achievement of students and tutors.

... etc.

Requirements placed upon the Community Learning Center would include

... Space for individual study (probably some kind of roofed study hall)

... Space for peer learning (one to three children)

... Space for small group learning

... Playground

... Provision for reward/incentive activities*

... Supplies, materials and equipment

... Space for supplies, materials equipment

... Individual carrels for block post-tests

... Provision for applied skill learning

... etc.

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* More on possible rewards/incentives later in this paper.

Note: The previous pages have outlined only some of the activities and their requirements on the Instructional Supervisor and Community Learning Center. We suggest that the meetings in Indonesia and the Philippines (1) expand and give greater definition to the various activities and requirements before (2) developing a more comprehensive picture of the CLC and (3) preparing a project phasing leading to the more ultimate CLC. Point "2" above could be aided by a matrix or table to include the following components:

Module level (e.g. M 1-150)

Activities	
	Student
	Instructional Supervisor
	Community Resource Persons
	CLC Aides
	Programmed Teachers
	Tutors
	Other

For each of the previously mentioned:

Number of students per time
Frequency day or week
Time involved per usage
Management requirements
Materials requirements
Equipment requirements
Space and facilities requirements
Comments (including multiple-usage potential)

From the above, (and from other aspects not now thought of) we could describe

... The typical day of Instructional Supervisor, CLC Aide, Tutor, etc.

... Typical space/facility utilization for one day and one week.

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Additional Thoughts and Comments:

(Post-testing) As seen from Working Paper #1, IMPACT conducts post-tests on both modules and blocks. Eventually module post-tests must be the responsibility of tutors. (Problems of security can be partially dealt with by an incentive/rewards plan for tutor behaviors ... see section on incentives/rewards.) Block post-tests, however, are the responsibility of the instructional supervisor ... probably through CLC aides. The block post-tests measure student progress, efficary of learning activities and tutorial effectiveness. They must be secure, and they must be administered with security in mind. Probably a post-test room with individual carrels will be needed that are under the direct monitoring of dependable aides or of the Instructional Supervisor.

Assuming that such formal and individual block post-tests are required for only M301-M900, we are talking about some 130 students. Also assuming that each student requires 1 hour per block post-test and that, typically, be will take 1 per week ... we are talking about some 130 block post-test hours per week ... or 26 hrs per day. If the responsibility for block post-testing rests with one person working 4 hours per day ... there would be a need for approximately 7 such carrels.

(Number of Modules)

There are approximately 900 modules making up primary education. How many copies of each module are necessary? Already in Naga we are experiencing a dispersion of some 9 modules in a given subject because children are progressing at their own rates (i.e. some proportion of children are on module #3 while others have reached #12). As the system is implemented for an even longer period, we should expect even greater dispersion. Assuming that we can make modules that will stand up to multiple usage, we should only need to provide only 4 or 5 of each for a given set of 30-35 students. This multiple usage represents one of the savings of IMPACT.* We would suggest, however, that the block review module be reproduced cheaply and that children be able to keep it for later review.

(Subjects not modularized)

Art, music and physical education are not now being modularized (in Indonesia, religion also is not modularized). The thought behind this

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* Very shortly we will need a very sophisticated cost analysis of many of the components of the IMPACT system.

procedure is that they difficult skills to learn without direct teacher guidance and support. The answer that both sites have come up with is to set aside one day at the CLC for all these "fun" activities. This answer probably is good because it not only provides a break, but it also tends toward more pupil interaction and socialization. However, who is to be the teacher? It will probably require three teachers, one for each subject. Assuming that the Instructional Supervisor can teach one and that a community member can teach and supervise P.E., a third will have to be found. Perhaps such skills can be found in the community (music, art). If so, fine. If not, a teacher will have to be brought in from the outside ... we suggest that, if an outside teacher is found to be necessary, that the District office have such teachers available to make itinerant rounds of the various schools, going to different schools on different days.

(Training of Tutors and Programmed Teachers)

This training, to date, has been taken on by the project staff. We have indicated that it be one of the Instructional Supervisor's responsibilities. Perhaps a better suggestion (in the long run ... should IMPACT be implemented and expanded to other schools) is that it be the responsibility of specialists out of the District office.

(Present use of 5th and 6th graders as Tutors of 4th Grade Students)

At first blosh, this usage is not a good idea since the 5th and 6th graders will be needed to tutor the 1st through 3rd grade students. However, there is a good reason why it can be a good idea now. Our present 5th and 6th graders will be in secondary school by the time we get around to the M 1-450 students, and the present apprentiship with 4th graders will prepare them to be tutors of the M 451-900 students in the future.

(Incentive/reward system)

Any one of us on the job do that job better if (1) we know exactly what we are expected to do and (2) if we know that we will somehow be recognized and rewarded for it. For a number of us, some sort of internalized reward of "a job well done" is sufficient. However, for the majority, salary increases, recognition, prestige, upgrading, more responsibility are the kinds of incentives that keep us trying to do a good job.

Students, tutors, parents, community members, Instructional Supervisor... all those asociated with the CLC are no different ... they must know (1)

specifically what behaviors are valued and (2) the recognition or reward that will result from performing the behavior.

Already we have had IMPACT teachers who have had difficulty breaking away from the previous reward system which was (quite reasonably) based upon how well their students performed. The result, at times, have been teachers teaching the module post-test. We must make explicit the behaviors expected of Instructional Supervisors, and they must know that their evaluations are based upon their performance of these new IMPACT behaviors. ... A difficult job.

Parents and community members more likely will have sufficient incentive to assist the CLC if the center becomes truly a community based center for all kinds of learning and if they are given recognition by the school authorities and community for their contribution.

Students and tutors probably need more targible rewards for achievements. (We dare not give monetary rewards or we obviate both the community spirit and the need of IMPACT to save educational costs.) There are a variety of social activity rewards available to us, and we can name a few.

... Already, Naga has a comic-book lending library which allowance student to take a comic home overnight after successfully completing two modules.

... A number of activities can be rewarding. Say, after completing a module, a child is allowed to work at an activity he or she enjoys, such as ...

... 15 minutes at the "brain-buster" box which contains puzzles to solve ... and which allows him to record (by his own name) which brain-buster he has solved,

... A blank wall on which a child could paint (water-soluble) for 15 minutes

... Curtains to be sewn for the community Center

... Field trips, picnics, beach parties

... Learning how to repair cassette recorders,

... Sewn on arm patches for reading given levels (similar to those of the Boy or Girl Scouts)

... Diplomas after every 100 modules

... etc, etc, ... much thought and creativity should be given to this important aspect of the system.

Tutor rewards could be similar (probably based upon some combination of their regular attendance at tutorials and the progress of their tutees as measured by block tests) ... Some kind of esprit could be built up for the tutors that gives them status and prestige ... Meetings of tutors, outings, special recognition for outstanding performance ... a variety of social incentives could apply.

(CLC Requirements outside of Primary Education)

It is hoped that the CLC can cater to a wide variety of educational and community endeavors, space should be available for after hours adult and non-formal education, for use of the library by the community, for health education, mid-wifery training, literacy learning, PTA meetings, agricultured extension classes, etc. etc. when considering the requirements of IMPACT at the primary level, we should also consider additional uses to which the CLC could be put. In addition to the efficiency/utility of multiple use, by encouraging the CLC to be the real center of community life we will, at the same time, lend it the special significance it deserves so that community social presume will insure that all students of primary age make use of the educational opportunity which it can provide. "You mean that your child is not in school?... That he is not taking advantage of IMPACT at the CLC? for shame!"

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