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**TECHNICAL  
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to **INNOTECH**

**SEAMEO REGIONAL CENTER  
FOR EDUCATIONAL  
INNOVATION AND TECHNOLOGY**



**PROGRESS  
REPORT  
APRIL-SEPTEMBER  
1973**

AIR-21200-10/73-PR(11)

Technical Advisory Services to  
INNOTECH  
SEAMEO REGIONAL CENTER FOR EDUCATIONAL INNOVATION AND TECHNOLOGY

Progress Report  
April 1973 - September 1973

to the  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
CONTRACT AID 490-7

by the  
AMERICAN INSTITUTES FOR RESEARCH  
ASIA-PACIFIC OFFICE  
P.O. Box 11-45  
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SHELDON SOFER

OCTOBER 1973

## PURPOSES OF INNOTECH

- . To create and develop new approaches to education particularly suited to Southeast Asia.
- . To supply adequate facilities and professional resources for the selection, development and testing of potentially valuable innovations.
- . To attract to the Center outstanding creative thinkers and innovators.
- . To promote and undertake research and experimentation leading to the creation of prototype solutions.
- . To train key and selected personnel from member nations to implement (1) and (4) through seminars, workshops and training courses.
- . To provide library and information services (from) world-wide sources.
- . To establish model testing and evaluation procedures and standards.
- . To co-ordinate activities with member countries' National Centers and with related SEAMEO, UNESCO or similar projects.

## P R E F A C E

This report is of the progress at INNOTECH from April-September 1973. Although the report should reflect solely the progress of the AIR contract team, it cannot do so because the work of AIR is inseparable from the work of the total INNOTECH staff. We can only hope that AIR personnel can share in the deserved recognition for the progress made at INNOTECH

Daryl G. Nichols  
Chief of Party

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# **I. SUMMARY**

## SUMMARY OF PROGRESS

Staffing

There are currently 15 professional staff members, plus Dr. Winarno, Deputy Director, who is responsible for research and training. The breakdown by country of origin is as follows:

Indonesia	:	0
Khmer	:	2
Laos	:	0
Malaysia	:	0
Philippines	:	2
Singapore	:	1
Thailand	:	3
Vietnam	:	2
Canada (CUSO)	:	2
USA (AIR)	:	3

Letters of appointment have been sent to three persons in Indonesia, two in the Philippines and one in Vietnam. Two additional senior persons will be recruited in Vietnam as well as another from Singapore. These appointments will bring the staff up to the required size. Miss Aragonés, Philippines, will be with the Center through December. Miss Greta Librata, who has been with the Center since its inception, has had to return to Indonesia; she will be sorely missed.

### Research and Development

1. The TECH Programme (a self-instructional programme for English listening comprehension) has been completed and sent to member countries for use of participants in advance of their attendance at the 3-month INNOTECH training programme. Final reports have been published and distributed.
2. Project PROGRESS: Primary Objectives of Primary Education has yet to be written as a final report. We find that data coding inaccuracies have been the cause of the delay, but it will be prepared during the next six month period by Dr. Sim of the University of Malaya.
- 3a. Delivery of Primary Education: Programmed Teaching using non-professionals as teachers of first grade reading in Malaysia has been completed successfully. The final report has been distributed.  
  
A new Programmed Teaching project is in early planning stages. It will attempt to generalize the technique to other subjects and grades and countries. Research is to be conducted in rural Vietnam.
- 3b. Delivery of Primary Education: NAGA-SOLO (No More Schools?). Definitive plans (sites, staff, schedules) have been made to develop a delivery system based upon the "No More Schools?" concept. Sites and staff have been selected in the Philippines (near NAGA) and in Indonesia (near SOLO). A proposal has also been submitted to IDRC for additional support.
- 3c. Delivery of Primary Education. Reduced Instructional Time. Plans are being made to conduct a large-scale project in rural Vietnam to develop means for reducing the time students spend in school/with teachers by means of more effective and efficient instruction. It is hoped that reduced time in school can allow more children the opportunity for primary education through rescheduling of teacher time and facility use.

- 3d. Delivery of Primary Education: Survey of Community Resources. Survey methods and instruments are being tried out in rural Vietnam in an effort to find a means for a fairly rapid and accurate identification of community constraints and resources as they may apply to primary education.
- 4a. Primary Education Objectives: Comparative Study of Published Objectives. A final report has been prepared in two volumes, and it will be distributed before the end of October 1973.
- 4b. Primary Education Objectives: Life-Skills. A pilot study conducted in the Philippines is complete and a working paper of results has been reproduced. A final report will be reproduced shortly. Results of application of the technique have been quite encouraging, and a re-application of the model will take place in Indonesia (by the Indonesian government) beginning in December 1973.
- 4c. Primary Education Objectives: The Indonesian Model for establishing priorities among objectives has been revised and a draft report has been prepared. Final publication will be in December 1973.
5. Mekong Human Resources Development: No word has been received concerning funding of the project.

Training:

1. The 12 March 1973 three-month programme was completed.
2. The new three-month programme begins in Saigon on 1 October 1973 with 42 participants.

Information Exchange:

1. The monthly INNOTECH Newsletter was discontinued for the month of June through September because of the move to Saigon. The May and October issues are attached.

2. A Regional Seminar on the "Use of Community Resources in Providing Low Cost Primary Education" will be held in Saigon on 12-16 November 1973. There will be some 15 invited speakers plus some 80 other participants.
3. Publications:
  - a. TECH Programme: Final Report
  - b. TECH Programme: The TECH Book of Instruction.
  - c. A Model for Deriving Life-skills Objectives (Working paper)
  - d. A Comparison of Published Primary Education Objectives in SEAMEO countries.
  - e. Objectives of Primary Education in SEAMEO Countries.
  - f. Programmed Teaching: Effective Teaching by "Unqualified Teachers."

Target Completion:

(Reproduced from the October Progress Report; an "\*" indicates completion and an "o" indicates target not achieved on schedule.)

Staffing

- |         |      |   |
|---------|------|---|
| * April | 1973 | : Complete recruitment of one additional member for AIR contract team   |
| * April | 1973 | : Complete recruitment (letters and contracts) for Regional Specialists |
| o July  | 1973 | : New Staff On-board (Saigon)   |

Research and Development

(Comparative Objectives Study)

- |        |      |  |
|--------|------|--|
| * May  | 1973 | : Complete writing of final report                 |
| * June | 1973 | : Type   |
| * July | 1973 | : Publish (Saigon) / <u>Change: October 1973</u> / |

(Life-relevant Objectives Study)

- \* May 1973 : Pilot Study of 5 alternative models
- \* June 1973 : Preliminary analysis and draft interim report
- \* August : Report revision
- ° September : Interim Report Publication /Change : November 1973/
- ° August 1973 : Planning for Field Study /Change: December 1973/

(Indonesian Priority-setting Model)

- \* April 1973 : Complete Draft by Indonesian Specialists
- ° July 1973 : Complete review and revision
- ° August 1973 : Publish Final Report /Change: December 1973/

(TECH Programme for Listening Comprehension)

- \* May 1973 : Report, programme and cassette tapes distributed to SEAMEO countries

(Programmed Teaching)

- \* May 1973 : Complete Post tests and analysis
- \* June 1973 : Final Report in English and Malay

(Mass Delivery of Primary Education)

- \* August 1973 : Research staff planning
- \* October 1973 : Select sites for field research

Training

(Three-Month Programme)

- \* May 1973 : Complete present three-month programme
- \* June 1973 : Begin programme revisions
- \* September 1973 : Complete revision
- \* October 1973 : Begin three-month programme

(Ten-month Intern Programme)

\* June 1973 : Complete Intern Programme

Information Exchange

(INNOTECH Newsletter)

\* Each Month (except June & July 1973) : Publish & Distribute  
/Change : No August or September 1973  
issue/

SUMMARY OF PLANS

Staffing

December 1973 : Complete staff recruitment

Research and Development

(Life-relevant Objectives Study)

November 1973 : Publish final report of pilot study

December 1973 : Complete plans for Indonesian replication.

June 1974 : Publish final report of Indonesian replication.

(Indonesian Priority-setting model)

December 1973 : Publish final report

(Assessing Achievement of Objectives)

June 1974 : Planning document

(Programmed Teaching)

November 1973 : Planning Document

(NAGA-SOLO Project)

December 1973 : Research plans

June 1974 : Instructional materials developed. Application in rural villages begun.

(Reduced Instructional Time)

November 1973 : Research Plans

(Survey of Community Resources)

October 1973 : Final tryouts of instrument

December 1973 : Publish results

Training

October 1973 : Start of three-month programme

December 1973 : Close of programme

January 1974 : Start of new programme

Information Exchange

(INNOTECH Newsletter)

Each Month : Publish and distribute

(Seminar)

November 1973 : Conduct "Community Resources" seminar

"Early" 1974 : Plan and conduct seminar.

## **II. PROGRESS AND PLANS**

## STAFFING

### Status

There are currently 15 professional staff members:

By Boeun	(Khmer)
Claveria, Orlando B.	(Philippines)
Gillis, Frank C.	(Canada - CUSO)
Gloria, Fabiana C.	(Philippines)
Lien, Do Ngoc	(Vietnam)
Nathenson, Michael B.	(USA - AIR)
Nichols, Daryl G.	(USA - AIR)
Noulchant Potar	(Thailand)
Ouy Van Thon	(Khmer)
Plookpleum Sriprasert	(Thailand)
Rasanayagan, Cecil	(Singapore)
Sofer, Sheldon	(USA - AIR)
Sunan Patamachone	(Thailand)
Tuck, J.F.B.	(Canada - CUSO)

(Miss Fe Clara N. Aragones, Philippines is assisting in the conduct of the October-December Training Course.)

We are currently waiting for government clearance for Mr. Tran Huu Long, Vietnam. In an effort to obtain two additional senior staff members from Vietnam, a circular to Ministry offices and University was proposed. We are currently waiting for responses. Unofficial contact has been made with Singapore in attempt to obtain a training specialist, perhaps by way of technical assistance from that country.

As part of the field study programme on rural mass primary education, four senior staff members have been named. They will reside in Indonesia and the Philippines to provide direction to the studies.

Letters of appointment will be sent shortly to:

Dr. Concisa M. Baduel	(Project Director - Philippines)
Dr. Rosetta Mante	(Project Assoc. - Philippines)
Drs. Samsu Mappa	(Project Director - Indonesia)
Drs. Saleh Muntasir	(Project Assoc. - Indonesia)

A letter of appointment also has been sent to Dr. A.O.B. Situmorang of Indonesia. He will be joining us shortly.

Miss Greta C. Librata has been with INNOTECH from its beginning, and has had numerous responsibilities including editing, publications and assistant to the Head of Professional Staff. We are saddened that circumstances have required that she return to Indonesia. The Center wishes to express its appreciation for her years of loyal service, and it hopes that she may be able to return to the staff in the future. Thank you, Greta!

We would like to express sincere appreciation to the Canadian University Service Overseas (CUSO) for the speed of response to our request for assistance and for the quality of the personnel which have been made available to the Center. Frank Gillis has done an excellent job in taking over editorial responsibilities, and Joan Tuck has made significant contributions to research planning in the short time she has been with us. Efforts by the SEAMES Director to obtain an advisor from Canada were unsuccessful this year, and it is doubtful whether France will provide assistance in the near future. Correspondence is continuing with Australia, and both that country and New Zealand, however, remain good possibilities.

All in all, recruiting efforts have been successful, both in numbers and in quality of staff members.

# RESEARCH AND DEVELOPMENT

- CONTENTS -

1. TECH Programme for English Listening Comprehension
2. Project PROGRESS : Primary Objectives of Primary Education
3. Development of an Effective and Economical Delivery System for Mass Primary Education
  - ... Study 3A : Programmed Teaching
  - ... Study 3B : NAGA-SOLO : No More Schools?
  - ... Study 3C : Reduced Instructional Time
  - ... Study 3D : Survey of Community Resources
4. Development of Instructional Objectives for Primary Education by SEAMEO Member Countries
  - ... Study 4A : Comparative Study of Present Objectives
  - ... Study 4B : Deriving Life-relevant Objectives
  - ... Study 4C : Indonesian Model for Priority-setting
  - ... Study 4D : Assessing Achievement of Objectives
5. MEKONG Project : Human Resources Development

## 1. TECH Programme for English Listening Comprehension

- Purposes:
- (1) Develop a self-instructional programme to improve the English listening proficiency of INNOTECH trainees in their own countries before they join the INNOTECH training programme.
  - (2) Prepare instructions for adaptation of the programme to meet the needs of other SEAMEO centers ... essentially a prototype package to be adapted to the unique technical language needs of SEAMEO centers.

Progress: The TECH project is completed. A final report, the instructional programme ("The TECH Book") and cassette tapes were reproduced and sent in six copies to each of the eight member countries. Most of the present training programme participants completed the programme before arriving in Saigon although a number continue to use it here in their spare time.

Reports:

Ellson, D.G., Chiam, T.W., and L.T. Kim Hai. The TECH Programme: A self-instructional programme for English listening comprehension - final report. Singapore: INNOTECH, May 1973 (INNOTECH/TP-FR/73).

Ellson, D.G., Chiam, T.W. and L.T. Kim Hai. The TECH Programme: A self-instructional programme for English listening comprehension - the TECH book. Singapore: INNOTECH May 1973 (INNOTECH/TPM/73).

2. Project Progress: Primary Objectives of Primary Education  
- Perceptions and Expectations

- Purposes: (1) Determine the feasibility of several data collection approaches for deriving objectives:
- ... interviews vs questionnaires,
  - ... open-ended followed by structured questions vs structured followed by open-ended.
- (2) Derive tentative perceptions and expectations concerning objectives as derived from four types of respondents:
- ... pupils,
  - ... parents,
  - ... teachers,
  - ... heads of schools,
  - ... senior educators.

Progress: The final report has as yet to be prepared because of inaccuracies in data compilation. Dr. Sim Wong Kooi kindly has offered to re-code and analyze the results and to prepare a final report.

Target: No firm date for final publication.

3. Development of an Effective and Economical Delivery System for  
Mass Primary Education

Overall Purpose: Conduct studies which will assist SEAMEO countries in the development of effective and economical delivery systems for mass primary education.

Study 3A: Programmed Teaching

Purposes: Attempt to develop alternative methods for effective and economical delivery of mass primary education.

- ... Develop and tryout a model which does not require the use of qualified teachers and which will be effective in producing learning.
- ... Test the feasibility of using programmed teaching to enable elementary school graduates from a rural Asian community to teach effectively.
- ... Obtain a measure of the effectiveness of their teaching.

Rationale: In the developing countries of Asia, even more than elsewhere, there is an urgent need to improve the cost-effectiveness of education, either by decreasing costs or holding costs constant while increasing effectiveness.

The prime component of cost in education is teachers; salaries (70-90% of educational budgets). Effectiveness means teaching effectiveness.

It follows that the most promising locus for improvement in the cost-effectiveness of education is in the area of teaching.

Recent research in developed countries has demonstrated that a new technology, programmed teaching, may be able to increase the effectiveness of teaching. Trained and guided

by this technique, non-professionals teach as well as professionals, and for meeting some teaching objectives, the programmed non-professional is from two to fifteen times as effective as the conventionally trained professional. It follows that a promising area for research aimed at improving the cost-effectiveness of education is investigation of the feasibility of programmed teaching in Asia.

— Study A1 - Programmed Teaching of First Grade Reading —

Summary Description: One hundred first grade children in a rural Malaysian community were taught beginning reading of Bahasa Malaysia by local elementary school graduates trained in programmed teaching. Two questions are being asked: first, is it feasible to use programmed teaching to train elementary school graduates from a rural Asian community to teach effectively? Second, how effectively can they teach?

Progress: A three-month study was completed in ten rural elementary schools in southern Malaysia. A first report of the results has been reproduced and distributed:

Ellson, D.G., Chiam, T.W., Le Thi Kim Hai, Ishak b. Khamis, Khamis b. Noyo, and Moua Lia. Programmed Teaching: Effective Teaching by "Unqualified Teachers". Singapore, INNOTECH, June 1973 (INNOTECH/PT(E)-FR/73).

Reports also have been prepared in the Malaysian and Lao languages.

Evaluation: Students in the experimental group (N=100) were matched with students in a control group who received the same amount of instruction but by traditional methods. Results indicated a

significant difference in post-test scores in favor of the experimental programmed teaching group. Programmed teaching, thus, has become a potentially valuable means for economical and effective delivery of primary education. It remains to be seen, however, how generalizable the technique may be for other subject matters, other grades and other countries.

— Study A2 - Programmed Teaching of New Subject Matters —

Summary Description: The work of Dr. Elson and his staff must be extended if we are to determine how widely a programmed teaching approach can be applied to the problems of mass primary education. It is possible, though unlikely, that its efficacy applies only to first grade reading in the Malaysian language. The research question, thus, is: "Can relatively untrained members of rural communities be 'programmed' to provide effective learning for primary age children in grades, subject matters and languages other than Malaysia first grade reading?"

Progress: The research staff has begun initial planning for implementation of research studies to be conducted in rural Vietnam.

Target: November 1973: A final planning document (research design schedules) will be prepared. Dr. Elson will be in Saigon for the November 12-16 Seminar, and he will be asked for advice.

Study 3B: NAGA-SOLO - No More Schools?

- Purposes:
- (1) Utilize the "No More Schools?" concept as a framework in the development of a mass primary education delivery system.
  - (2) Establish complementary rural education projects in at least two Southeast Asian countries using the "No More Schools?" concept as a basic approach.

Summary Description: The "No More Schools?" concept was first prepared for publication in April 1973. The rationale for using this concept as a starting point for research is as follows:

- ... approximately one-half of children in SEAMEO countries do not complete 4-5 years of primary education,
- ... this condition is most prevalent in rural communities in which some 70% of the population lives,
- ... educational budgets are already strained, and the direction of INNOTECH research should not concern ways to increase funding,
- ... traditional means of education (teachers, classrooms, etc.) cannot simply be expanded because funds are not available,
- ... non-traditional alternatives must be found which are both effective and economical,
- ... mass media is expensive (TV) and limited (radio) as a mean for delivery of rural primary education,
- ... 80 to 90% of educational costs are those associated with teachers,
- ... ways must be found to increase the student-teacher ratios (perhaps to as much as 200:1),
- ... with increased student-teacher ratios, classroom teaching is unlikely, and the role of the teacher may change to one of managing educational experiences,

- ... inexpensive community resources of all kinds (parents, skilled workers, older students, materials, buildings, etc.) should be utilized\*,
- ... students/parents may have to be responsible (self-directed) in taking advantage of educational opportunities,
- ... most learning may have to be self-instructional under the management of the teacher, but under the direction and tutoring of parents, community members and older children,
- ... a means should be provided for individual learning rates and exit and re-entry into the educational system at any time (as one means to avoid dropouts and wastage).

The essential characteristics of the concept are:

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, homemaking, 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,

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\* INNOTECH will host a Regional Seminar in Saigon on 12-16 November 1973 in an effort to gain more information on the topic: "Use of Community Resources in Providing Low Cost Primary Education."

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. They probably would be paid for their time at a relatively low rate compared to the Instructional Supervisor.

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.

A minimum of two research sites (village clusters) are to be involved in the total study, and they should represent two different cultures so that the results of the research can be better generalized to other member countries.

Progress: A Technical Proposal (see Appendix) has been submitted by SEAMES to the International Development Research Center (IDRC) of Canada. Preliminary feedback is encouraging, and IDRC Board action on the proposal will be made in December. We have since determined that the initial cost estimate was some \$6,000 low, and IDRC has been informed.

The staff made a two-week field trip to Indonesia and the Philippines to plan joint INNOTECH - host country projects. Results are given in the Field Trip Report in the Appendix.

In summary, they were:

- ... Two INNOTECH senior staff members were selected for the positions of Project Director and Project Associate.
- ... An additional eight staff members would be provided by host countries.
- ... Office space and furniture were promised.
- ... Means for coordinating the project in each country were established.
- ... Other contributions (e.g. UNICEF vehicles) were determined as being very likely, and steps are being made by each country to secure this kind of support.
- ... Rural sites were selected based upon the criteria outlined in the April report. The Philippines were close to the town of NAGA, and those in Indonesia were close to SOLO (Surakarta). Hence the project name: NAGA-SOLO.

- Targets:** November 1973: NAGA-SOLO Project Directors and Associates to attend the "Community Resources" Seminar in Saigon and to remain an additional three weeks for definitive research planning.
- December 1973: NAGA-SOLO research planning document prepared.
- December 1973: Decision on funding by IDRC.
- January 1973: Start of instructional programme development.
- June 1973: Beginning of instructional programme in NAGA-SOLO villages.

Study 3C : Reduced Instructional Time

- Purposes:** (1) Develop means for reducing the amount of time that primary students must spend in school (reducing the per-pupil contact with teachers and school facilities). These means are to be developed within the context of present school systems.
- (2) Utilizing the instructional strategies of #1, above, develop feasible schedules which will permit teachers and school facilities to instruct an increased number of students - with no loss in learning effectiveness and with no increase in costs. - OR to reduce the number of teachers with no loss in the number of students receiving instruction.

**Rationale:** Per-pupil costs of primary education must be reduced if more children are to receive an education because an increase in the total budget is unlikely. Teacher costs account for the largest portion of budgets, and means should be sought to increase the number of children that one teacher can educate.

Traditional methods of instruction are notoriously inefficient in every country. Teachers and students spend an inordinate amount of time on inessential activities. Instruction can be made both more effective and efficient through appropriate design of the instructional programme.

This particular aspect of INNOTECH's research programme should limit itself to helping present schools and teachers to increase the efficiency of instruction; to extend the work to the extreme of non-school learning (mobilization of community resources, self-directed and self-instructional learning, etc.) could ultimately lead to something on the order of the "No More Schools?" approach to primary education. We feel that it is best to leave that approach to the NAGA-SOLO project and to concentrate more directly on means for improving the in-school instructional process. (This is not to say, however, that youngsters may not be given more homework or that some forms of self-instruction may not be used -- the future will tell.)

The possible outcomes of more effective/efficient instructional processes probably lie in the rescheduling of classes, and there are a wide variety of schedules that may take advantage of more efficient learning. And the particular schedules which are possible may depend largely upon the particular circumstances, traditions and cultures (both national and local) in which new instructional programmes are to be accepted.

Progress: Planning for "reduced instructional time" has just begun. Staff assignments have been made to review the literature and to make presentation to the full staff as a basis for discussions and more definitive planning.

The research is to be conducted as a fairly long-term programme in rural Vietnam, and village selection and visits also

have begun. Present curricular materials and tests are being examined.

Targets: November 1973: Research planning and scheduling document prepared.

Study 3D : Survey of Community Resources

Purposes: (1) Provide rural research projects (e.g. NAGA-SOLO and Reduced Instructional Time projects) with a structured means for determining educational, social and economic status of villages -- and the availability of different kinds of resources (human and material) which may have utility for mass primary education.

(2) Develop a model survey instrument for use by SEAMEO member countries.

Progress: The research staff has developed the "Community Resource Survey" instrument (see Appendix) through a series of tryouts and revisions. Tryouts were conducted in rural Vietnam.

Targets: October 1973: Translate latest version into Vietnamese and conduct final tryout.  
December 1973: Publish results as a working paper.

4. Development of Instructional Objectives by SEAMEO Member Countries

Background: This overall project is both an extension of Project PROGRESS and a recommendation by the Technical Working Group (TWG) as convened by SEAMES on 19 July - 2 August 1972.

The project is conducted as four sub-tasks or studies:

Study A. Comparative Study of Present Educational Objectives of SEAMEO Countries

Study B. Development and Tryout of a Model for Deriving Life-Relevant Objectives of Primary Education

Study C. Dissemination of Indonesian Model for Priority-setting among Educational Objectives

Study D. Development and Tryout of Model Procedures for Assessing Achievement of Primary Education Objectives

Study 4A : Comparative Study of Present Educational Objectives of SEAMEO Countries as these are Represented by Official Documents.

- Purposes:
- (1) Provide inputs to the study of life-relevant Objectives for students for whom primary education is terminal.
  - (2) Compare the use made of published objectives among member countries.
  - (3) Compare the use made of published objectives in terms of curriculum design and evaluation.
  - (4) Compare processes in use for updating objectives.
  - (5) Compare different priorities and emphases of member countries.

- (6) Compare methods for classifying objectives.
- (7) Provide a comparison of published objectives on a sufficient number of bases to allow member countries to draw their own conclusions as to how each might improve their own objectives.
- (8) Provide member countries with alternative models.

Summary Description:

The study was designed to (1) collect published primary education objectives from all SEAMEO countries, (2) translate all into English, (3) make comparisons based upon the above purposes, (4) publish a draft final report, (5) hold discussions with officially-designated committees in each country to insure accuracy and correctness of interpretation and (6) revise and publish in two volumes for dissemination throughout the region. The first volume reports the study and the results of the comparative analysis. The second volume is to contain the published objectives by country.

Progress:

The project has been completed and will be reported in November 1973 as two volumes:

Tiro, A.A., Sudomo, M., Maneahindan, L.F., Prachak Deeprawat, Tran Thi Bich San. Primary School Objectives, Volume I. Comparison Among SEAMEO Countries. Saigon: INNOTECH, September, 1973, (INNOTECH/PE-FR/Vol. 1/73).

Tiro, A.A., Sudomo, M., Maneahindan, L.F., Prachak Deeprawat, Tran Thi Bich San. Primary School Objectives, Volume II. Representative Examples from SEAMEO Countries. Saigon: INNOTECH, September, 1973, (INNOTECH/PE-FR/Vol. 2/73).

Evaluation: Within the constraints of the available published objectives, the study provided a relatively thorough examination of the primary education objectives of the eight SEAMEO countries. The publication of the actual objectives obtained from the member countries (Volume II) will be especially valuable to those in the region who desire to improve the objectives in their own countries by examining what others are doing. Dr. Tiro is to be congratulated for completing a difficult task in minimum time.

Study 4B: Development and Tryout of a Model for Deriving Life-relevant Objectives of Primary Education.

Purpose: Develop a model for deriving the important objectives of primary education which would apply to children for whom primary school is terminal.

Summary Description:

Five alternative models were to be developed and tried in the Philippines by May of this year. The five models are given below as a series of steps.

Alternative #1

Steps

- ... Generate lists of "the most important things that primary age children should learn." (Committee A).
  - ... Determine which primary objectives can be or should be learned in formal school as opposed to the use of other community resources for learning. (Committee E).
- Analysis: Compare results with those of other alternatives on the basis of (1) feasibility, (2) acceptability, (3) comprehensiveness and (4) validity. (Staff)\*
- ... Review results of study (Steering Committee)

Alternative #2

Steps

... Generate behavioral examples of primary education achievements for generalized categories of objectives previously prepared. (Committee B).

Combine and categorize results. (Staff)

... Determine the twenty "best" examples for each generalized category. (Select Committee B.)

... Judge the relative importance of objectives as important things to be learned by children who must leave school after 4-5 years. (Committee G).

... Determine which primary objectives can be or should be learned in formal school as opposed to the use of other community resources for learning. (Committee E)\*\*

Analysis: Compare results with those of other alternatives on the basis of (1) feasibility, (2) acceptability, (3) comprehensiveness and (4) validity. (Staff)

... Review results of study. (Steering Committee).

Alternative #3

Steps

... Generate behavioral examples of primary education achievements for generalized categories of objectives previously prepared. (Committee B).

... Develop a list of desirable achievements for teenagers who have not gone beyond primary school. (Committee C).

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\*\* Note that this step is identical to one in Alternative #1. Committee E, thus, makes this input to all alternatives in a single meeting. The multiple use of the inputs of the various committees is illustrated in the overall project diagram given in the planning document (Appendix).

- ... Develop a list of desirable achievements for adults who have not gone beyond primary school. (Committee D).
- ... Determine the relative importance of primary education objectives - using as references the desirable achievements of teenagers and adults. (Committee H).
- ... Determine which primary objectives can be or should be learned in formal school as opposed to the use of other community resources for learning. (Committee E).

Analysis: Compare results with those of other alternatives on the basis of (1) feasibility, (2) acceptability, (3) comprehensiveness and (4) validity. (Staff).

- ... Review results of study. (Steering Committee).

Alternative #4

Steps

- ... Generate behavioral examples of primary education achievements for generalized categories of objectives previously prepared. (Committee B).
- ... Develop a list of desirable achievements for teenagers who have not gone beyond primary school. (Committee C).
- ... Develop a list of desirable achievements for adults who have not gone beyond primary school. (Committee D).
- ... Determine relative value of adult achievements. (Committee F).
- ... Determine relative contribution of primary education achievements to adult achievements: P to A - using teenage achievements for references only. (Committee I).
- ... Determine which primary objectives can be or should be learned in formal school as opposed to the use of other community resources for learning. (Committee E).

**Analysis:** Compare results with those of other alternatives on the basis of (1) feasibility, (2) acceptability, (3) comprehensiveness and (4) validity. (Staff).

... Review results of study. (Steering Committee).

Alternative #5

Steps

... Generate behavioral examples of primary education achievements for generalized categories of objectives previously prepared. (Committee B).

... Develop a list of desirable achievements for teenagers who have not gone beyond primary school. (Committee C).

... Develop a list of desirable achievements for adults who have not gone beyond primary school. (Committee D).

... Determine relative value of adult achievements. (Committee F).

... Determine relative contribution of teenage achievements to adult: T to A. (Committee J).

... Determine relative contribution of primary education achievements to teenage achievements: P to T. (Committee K).

... Determine which primary objectives can be or should be learned in formal school as opposed to the use of community resources for learning. (Committee E).

**Analysis:** Compare results with those of other alternatives on the basis of (1) feasibility, (2) acceptability, (3) comprehensiveness and (4) validity. (Staff).

... Review results of study. (Steering Committee).

The five alternatives resulted from a need to examine methods for (a) developing objectives initially and (b) judging the relative value of given objectives for inclusion

as "life-skills." Specifically, the main foci of the two methods can be stated as questions:

- (a) Can objectives best be developed by asking persons with appropriate expertise (a) simply to list types of objectives and behavioral examples or (b) to provide numerous behavioral examples for general categories of objectives which are prepared in advance?
- (b) Can the relative value of objectives for inclusion best be judged by asking persons with appropriate expertise (a) simply to indicate relative importance of primary objectives or (b) to judge the relative contribution of primary objectives to specific achievements of teenagers and adults?

Progress:

A three-week tryout was conducted in the Cebu City area of the Philippines in April-May 1973. More than 500 community members participated in making the types of judgments indicated above.

Results indicate that both methods (unstructured and structured) for gathering an initial post of objectives should be used. Although the overlap was substantial in the kinds of objectives derived from the two methods, there was sufficient uniqueness between the two methods to justify the recommendation that both be used in the future.

The four methods for judging relative value/importance of the objectives in the pool provided remarkably similar results (intercorrelation coefficients among the four were all above 0.70). It was decided, however, that the method of most potential utility (combining both administrative feasibility and adequate criteria of judgment) was the one requiring the judgment of relative contribution of primary education achievements to adult achievements.

A working paper has been reproduced and a report of the study will be available in November:

Jasin, A. The Development of a Model for Deriving Life-skills Objectives for Primary Education. Singapore: INNOTECH, June 1973. (Working Paper).

It was intended originally to apply the recommended model here in Vietnam so that the results could be generalized to other countries of the region. The Indonesian government through the Office for Educational Development (BPP), however, has determined to apply the model in its revision of the primary curriculum. INNOTECH welcomes wholeheartedly such utilization of its products by member nations (and would warmly welcome any increased utilization by others in the SEAMEO community). We have agreed to consult with the BPP on both planning and conduct of the Indonesian study.

Targets: December 1974: Assist the BPP for one week in planning the application of the life-skills model.  
January- March 1974: Help in monitoring progress.  
June 1974: Publish results.

<p>Study 4C: Dissemination of Indonesian Model for Priority-setting among Educational Objectives.</p>
---

Purposes:

- (1) Inform member countries of a priority-setting model which was established this year in Indonesia.
- (2) Provide step-by-step instructions for adaptation and use of the model.
- (3) Stimulate rational priority-setting in terms of national goals and purposes.

Summary Description:

Four documents were prepared last year by the Office for Educational Planning (BPP) of the Ministry of Education and Culture in Indonesia. These four documents describe the theory, the process and the results of using a "value-contribution" technique for deriving priorities among educational objectives. The basic concept is that national goals derive their relative value from their relative contribution to the basic purposes of Indonesian society; that national objectives derive their relative value from their relative contribution to national goals; that national targets derive their relative value from their relative contribution to national objectives - and that educational objectives derive their relative value from their relative contribution to national targets. Thus, by a sequence of judgments about relative contribution, the relative value educational objectives can be derived from national purposes, goals, objectives and targets.

The relative priority of educational objectives, however, is more than relative value. It must also consider (1) the human component in each national target (on the assumption that this is the only component which can be effected by education), (2) the degree to which each educational objective is currently being achieved in comparison to the desired level of achievement (priorities among educational objectives are directed toward change - educational achievements which currently are adequate do not require change and, consequently, have a low priority), (3) the proportion of a given educational achievement which should be or can be learned in the formal educational system as opposed to the use of other community resources,

e.g., should or can religion be taught in the school or should it be taught in religious institutions focus to setting priorities for the formal education system).

The BPP has gained experience not only in the use of the method for deriving priorities, but also in the application of it in curriculum reform. INNOTECH, SEAMES and RED all considered the Indonesian experience to be of sufficient value to warrant a request to the Indonesian Government to second to INNOTECH the two persons most familiar with the method so that they could prepare a single document outlining the Indonesian Model for possible use by other countries.

Progress: Drs. Soedijarto and Soetjipto have prepared an excellent draft report- we have yet to make final editorial changes.

Targets: November 1973: Revise report  
December 1973: Type - reproduce and disseminate.

Study 4D: Development and Tryout of Model Procedures for Assessing Achievement of Primary Education Objectives.
---

Purposes:

- (1) Extend Studies A & B to determine present achievements and deficiencies.
- (2) Provide a model to member countries.
- (3) Provide a basis for curriculum revision to overcome deficiencies.

Previous Targets: Draw up plans for this study by June 1974.

New Targets: No change.

5. MEKONG Project: Human Resources Development

Purposes: Develop a generalizable model for the development of human resources to parallel water resource development in the lower Mekong.

Summary Description:

INNOTECH has joined with other SEAMEO Centres (principally TROPMED and SEARCA) in developing a proposed plan for human resource development. INNOTECH's responsibility would be concerned with the educational component of the model.

Overview of the plan:

The proposed project would have a duration of three years. The first year would be devoted to needs assessments and to the development of an initial model and procedures ready for tryout. The second project year would cover tryouts in one community in each of the four riparian countries and subsequent revision. The third year would concern the application of the model by host country representatives with the project staff performing advisory, supporting and evaluative roles. On the basis of the third year's experience the model would be given final revision in cooperation with representatives of each riparian country.

Progress: The joint proposal which was prepared and submitted to the ECAFE/Mekong Committee in Tokyo in early April 1973 has yet to be acted upon. Even lacking external funds, however, SEARCA and TROPMED have begun some work on the Mekong along the lines of the proposed project.

## **TRAINING**

Three-month Participant Training Programme

- Purposes:
- (1) Provide key educators of the region with the skills and knowledges necessary for educational planning, decision-making and application of realistic change strategies.
  - (2) Individualize training for persons with varying needs and backgrounds.
  - (3) Prepare training modules which will require minimum changes (and professional staff involvement) from course to course.
  - (4) Package training modules so that many can be self-administered and so that many can be used outside the center for in-country training programmes.

Summary Description:

The solution of educational problems in SEAMEO countries is going to require more than money and good intentions- it will require people who can focus on "real" problems, generate and evaluate alternative solutions, and be able to get worthwhile solutions tried out and implemented. To fulfill this requirement, the new three-month training programme, which began on 1 October 1973 in Saigon, concentrates upon the improvement of applied job skills necessary for educational planning, decision-making, and application of realistic change strategies.

All course work is broken down into learning modules or clusters of time appropriate to achieve specific training objectives. Each module follows the same basic format:

- (1) Preview
  - (a) Overview of Module
  - (b) Rationale for Learning It

- (2) Objectives
- (3) Core Instructional Activities
- (4) Criterion Post-Test
- (5) Enrichment Seminar

The Core Instructional Activities are designed for individualized learning. They include a broad range of modern learning tools and techniques to account for the differences among the participants (e.g., programmed reading, self-instructional mathematics programming, slide/tape programmed presentations, etc.). We therefore attempt to insure that every participant will master every modular objective through one of the many learning activities appropriate to his needs.

Lectures, or as we now call them - Enrichment Seminars - are used in a different way than is usually the case in higher education. They are used to stimulate discussion and to clarify and reinforce concepts learned in the modules; they are not used to teach conceptual information. Concepts are learned through the various modular learning activities, not through lectures.

In order to individualize learning even further, modules have been translated into three languages - French, Thai and Indonesian - for those participants who have some difficulty with English. These modular language alternatives have proven extremely helpful to nearly 80% of the participants. As an indication of the appeal of the language alternatives many participants already have indicated their desire to take copies of modules home and to use them for training purposes in their own countries.

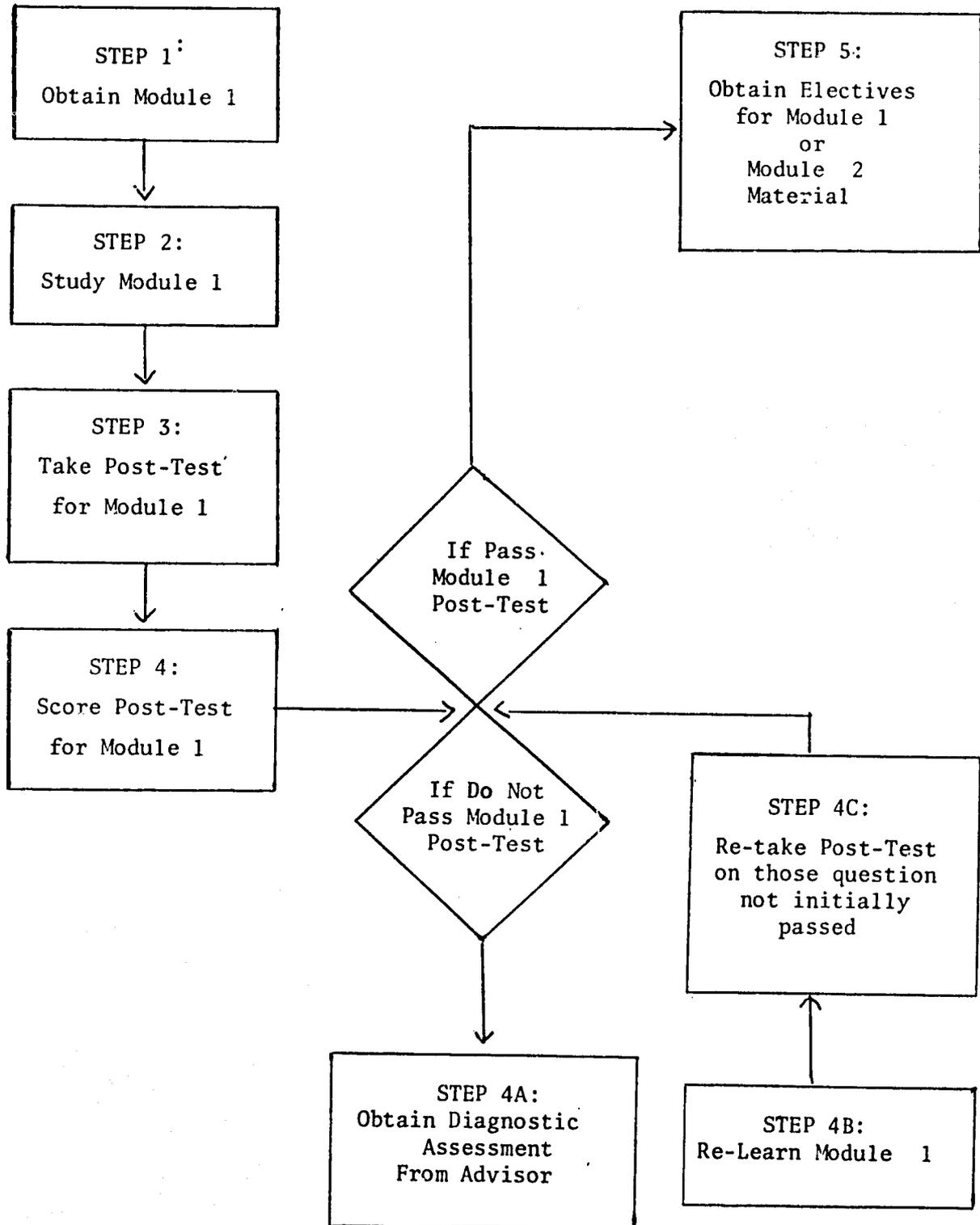
Each participant is assigned to one of three Asian training staff advisors, primarily based upon language preference.

The major function of the advisor is to provide daily one-to-one tutorial assistance and to conduct small group seminars.

When a participant feels he has mastered the objective (s) for a given module, he takes a criterion post-test which is available in the French, Thai and Indonesian languages. Participants may take Post-Tests in the language of their choice.

Each participant evaluates his own Post-Test performance- his advisor then verifies this self-evaluation. Those who pass proceed directly to the next sequential module or to one or more "Electives" for that module (Electives are optional instructional activities designed to reinforce concepts learned in the module). Those who do not pass the Post-Test obtain a diagnostic assessment from their advisor which specifies a "prescription" for re-learning the concept (s) that proved difficult in the module. Diagnostic assessments usually prescribe alternate instructional activities, staff or peer tutorials, or a small group discussion with other experiencing similar problems. A participant then "re-learns" the concept(s) on his own and, when ready, re-takes the Post-Test on only those questions not initially passed. All participants are encouraged to defend "incorrect" answers (as judged by advisors) and may take Post-Tests as often as necessary. The steps in modularized learning are illustrated on the next page.

STEPS IN MODULARIZED LEARNING



Participants are responsible for their own learning. They move through the course at a pace which approximates their own learning style and ability. This procedure is particularly important since the participants come from eight different countries with varied languages and backgrounds.

In addition to mastering the 25 Modules, all participants complete a National Problem Application Project. A team from each country selects three serious problems confronting its educational system; then, using the problem-solving skills they have acquired in the Modules, each national team systematically works toward the solution of the problem. "Brainstorming" innovative solutions and developing creative strategies for effecting change play major roles in the national Problem Application Project.

We encourage all participants to complete a simple Feedback Sheet after every learning experience. Feedback sheets allow them to comment on any aspect of the course they desire. Because feedback is anonymous, participants respond freely and honestly. Based on feedback from participants on their Post-Test performance, on three debriefings held at various points in the course and new developments relevant to Southeast Asian education -- the present course will constantly be evaluated, revised, and improved for the next group of participants coming to Saigon in January 1974.

**Progress:** The course begins on 1 October and will follow the Daily Schedule of Instructional Activities given in the next page.

DATE	AM	PM
OCTOBER 1	ORIENTATION TO INNOTECH	MEET TRAINING AND OTHER PROFESSIONAL STAFF MEMBERS
2	INTRODUCTION TO TRAINING	INTRODUCTION TO COUNTRY REPORTS
3	CORE MODULES 1-15 ELECTIVES 1-15	PREPARATION OF COUNTRY REPORTS
4		
5		
8	CORE MODULES 1-15 ELECTIVES 1-15	PREPARATION OF COUNTRY REPORTS
9		PRESENTATION OF COUNTRY REPORTS SINGAPORE & PHILIPPINES
10		MALAYSIA AND VIETNAM
11		INDONESIA AND THAILAND
12		KHMER REPUBLIC AND LAOS
15	CORE MODULES 1-15 ELECTIVES 1-15	
16		
17		
18		
19		

DATE	AM	PM
NOVEMBER 12	REGIONAL INNOTECH SEMINAR:  "USE OF COMMUNITY RESOURCES IN PROVIDING LOW COST PRIMARY EDUCATION"	
13		
14		
15		
16		
19	CORE MODULES 16-25  NATIONAL PROBLEM APPLICATION	
20		
21		
22		
23		
26	CORE MODULES 16-25  NATIONAL PROBLEM APPLICATION	
27		
28		
29		
30		

DATE	AM	PM
OCTOBER 22	CORE MODULES 1-15 ELECTIVES 1-15	CORE MODULES 1-15 ELECTIVES 1-15
23		
24		
25		
26		
29	CORE MODULES 1-15 ELECTIVES 1-15	CORE MODULES 1-15 ELECTIVES 1-15
30		
31		
NOV. 1	HOLIDAY	HOLIDAY
2	CORE MODULES 1-15 ELECTIVES 1-15	CORE MODULES 1-15 ELECTIVES 1-15
5	CORE MODULES 1-15 ELECTIVES 1-15	CORE MODULES 1-15 ELECTIVES 1-15
6		
7		
8		
9		

NOTE: CORE MODULES 1-15  
MUST BE COMPLETED BY  
9 NOVEMBER

DATE	AM	PM
DECEMBER 3	CORE MODULES 16-25	PROBLEM SOLVING WORKSHOP:  "STRATEGIES FOR CHANGE"
4		
5		
6		
7		
	CORE MODULES 16-25 MUST BE COMPLETED BY 7 DECEMBER	
10	REGIONAL RESEARCH PROJECT	
11		
12		
13		
14		
17	REGIONAL RESEARCH PROJECT	
18		
19	PRESENTATION OF REGIONAL RESEARCH PROJECT	
20	TRAINING COURSE DEBRIEFING	
21	FAREWELL TO INNOTECH	

Progress in preparation of instructional modules is as follows:

	Designed	Translated	Typed	Reproduced
English	1-2			1-13
French		1-11; 13-15	1-9; 11; 13-15	1-9; 13
Thai		1-9; 11; 13-15	1-9; 11; 13; 15	1-9; 11; 13
Electives	All		All	All

Fourty-two professional educators from the eight Southeast Asian countries are currently participating in the programme:

INDONESIA

- Mr. John E. Sitanala      Dean,  
Faculty of Teachers Training  
Ambon
- Mr. Soedarto              Supervisor,  
Secondary School Supervisory Unit  
Regional Office of the Ministry  
of Education and Culture  
West Kalimantan Province
- Mr. Suhardja Danusastró      Head of Guidance & Counseling Dept.  
Faculty of Education  
Institute of Teachers Training  
Surakarta (Sala)
- Mr. Pitoyo Gatut              Public Relations & Mass  
Communications Specialist  
Office for Research & Development  
Directorate General of Sports &  
Youth; Ministry of Education &  
Culture  
Jakarta

Mr. Sahri Ramdona  
Supervisor Primary School  
(Head of Supervision Section)  
Directorate of Primary  
Education  
Ministry of Education & Culture  
Jakarta

KHMER REPUBLIC

Mr. Danh So  
Director of Personal Office  
Ministry of Education  
Phnom Penh

Mr. Pech Theng  
Inspector of Primary School  
Pursat Province

Mr. Kim Sui  
Inspector of Primary School  
Pailin Province

Mr. Kem Tran  
Director in Secondary School  
Siemreap, Angkor

Mr. Khlok Phann  
Inspector of Primary School  
Vihear Suor

Mr. Ung Sarom  
Inspector of Primary School  
Siemreap, Angkor

LAOS

Mr. Soune Senesombath  
Inspector of Primary School  
Ministry of Education  
Bankeun

Mr. Long Inthompradith  
Inspector of Primary School  
Savannakhet

Mr. Khampheui Silavong  
Primary School Inspector  
Ministry of Education  
Vientiane

Mr. Houm Sonethongkham  
Primary School Inspector  
Wapikhamthong

Mr. Hoy Ninthala  
Deputy Inspector of Primary  
School  
Nongkob

Mr. Tiao Vannitha Deputy Director of Primary  
School  
Ministry of Education  
Vientiane

MALAYSIA

Mr. Zainal Abidin Bin Deputy Director of Education  
Bahaudin Negri Sembilan

Mr. Megat Hashin Bin Megat Principal  
Malay and English Mediums  
Secondary School  
Penang

Mr. Aboo Hassan AB. Rahman Principal, Malay Secondary  
School  
Pulau Penang

Mr. Cheah Teong Teik Head Teacher  
Sekolah Menengah Tumpat  
Kelantan

Mr. Marmuji Koso State Deputy Director of  
Education  
Education Department  
Melaka

PHILIPPINES

Miss Paz Momongan Vocational Education  
Supervisor  
Bureau of Vocational Education  
Department of Education and  
Culture  
Manila

Mrs. Purita Munson Supervisor  
Bureau of Public Schools  
Department of Education and  
Culture  
Manila

Mr. Alejandro M. Pangan Elementary School Principal  
Bureau of Public Schools  
Department Education and  
Culture  
San Luis, Pampanga

Mr. Alejandro M. Cale	Officer-in-Charge Administrative & Supervisory Northern Mindanao District Bureau of Private Schools Cagayan de Oro City
Mr. Gaudencio P. Ligutom	Special Consultant Department of Education & Culture Manila
Mr. Orlando Bonoza	Chief, Educational Television Section Educational Media Division Bureau of Public Schools Department of Education & Culture Manila

SINGAPORE

Mr. Lung Pang Fei	Inspector of Schools Ministry of Education
Mr. Cheah Chak Mun	Assistant Specialist Inspector Ministry of Education

THAILAND

Miss Praneat Khaoneum	Supervisor, General Super- visory Unit Ministry of Education Bangkok
Miss Abhorn Mokkhavesa	Supervisor, Division of Educational & Vocational Guidance Department of Educational Techniques Ministry of Education Bangkok
Mrs. Pintip Boriboorsook	Supervisor Department of Vocational Education Ministry of Education Bangkok

Mr. Daweesak Saengsawaddkul	Supervisor, ETV. Program Organizer Educational Technology Center Department of Educational Techniques Ministry of Education Bangkok
Mr. Atinut Bhromsiri	Supervisor General Supervisory Unit Department of Teacher Education Bangkok
Mr. Khajorn Tongumpai	Supervisor, Supervisory Unit Teacher Training Department Ministry of Education Bangkok

VIETNAM

Miss Nguyen Thi Vinh	English Teacher at Vinh Hoi High School Ministry of Education Saigon
Mrs. Nguyen Thi Bich Lien	Teacher of Primary School Le Van Duyet Primary School Ministry of Education Saigon
Mr. Tran Tu Nhue	Specialist of Educational Research Center Ministry of Education Saigon
Mr. Nguyen Quang Lan	Lecturer and Research Specialist Ministry of Education Saigon
Mr. Dinh Truong Hien	Instructor of Cao Thang Technical School Ministry of Education Saigon

Mr. Le Van Thuan

English Teacher at Nghia Hoa  
School  
Ministry of Education  
Saigon

# INFORMATION EXCHANGE

## Introduction

## INNOTECH Newsletter

## Seminars

Regional Seminar on "Use of Community Resources  
in Providing Low Cost Primary Education".

## Research Reports

Introduction

The purpose of an information exchange service by INNOTECH is to provide member countries with the information and the ideas which can aid and stimulate needed educational improvements. INNOTECH has attempted to provide this service in three ways:

- (1) The INNOTECH Newsletter.
- (2) Seminars which bring together key educators to make presentations and participate in discussions on educational topics relevant to the SEAMEO region.
- (3) Research reports which describe results of INNOTECH's research activities.

Progress related to these five activities is reported herein under the following headings:

- ... PURPOSE
- ... SUMMARY DESCRIPTION, including RATIONALE when appropriate
- ... TARGETS (planned accomplishments)
- .... PROGRESS (toward targets)
- ... EVALUATION, particularly in reference to INNOTECH's role in serving the region.

INNOTECH Newsletter

- Purposes:
- (1) Collect and disseminate information on new educational developments in the region.
  - (2) Disseminate information on relevant new development outside the region.
  - (3) Inform educators in the region of INNOTECH concepts and activities.
  - (4) Increase the awareness and credibility of INNOTECH in order to
    - ... stimulate new ideas,
    - ... attract increased external support,
    - ... attract qualified staff members and visiting scholars,
    - ... attract outstanding presenters and participants to regional seminars,
    - ... create an interest among key educators to participate in INNOTECH training programmes.

Summary Description:

A two-color newsletter is to be published monthly to include the following sections:

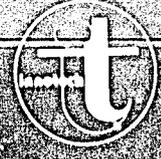
- ... a lead article on one current INNOTECH activity,
- ... a column by the Center Director concerned with a variety of activities and plans at the Center,
- ... two summary descriptions of new educational developments in the region (including the addresses of persons to write for additional information,
- ... an article by a professional staff member on a subject related to educational topics encompassed by INNOTECH,
- ... a list of available publications,
- ... a calendar of future activities in which the Center will be involved, and
- ... an occasional 2,000 words description of a new educational development outside the SEAMEO region.

Target: Publication of 5,000 copies on the first of each month.

Progress: The last Newsletter from Singapore was May, and the first from Saigon was October. Both are attached (next page).



# INNOTECH NEWSLETTER



Vol 1, No. 8 SEAMEO REGIONAL CENTER FOR EDUCATIONAL INNOVATION AND TECHNOLOGY May 1973

## THE UNFORGETTABLE THREE YEARS

By the time it moves to Saigon in July 1973, INNOTECH will have completed the first three years of operation in Singapore. Those were the trying years, but on the whole they were rewarding. The "INNOTECH bug" has bitten, so to speak.

It is rewarding to note, for instance, that educators of the region have come to realize the potential of INNOTECH and to expect a great deal from it, as evidenced by various meetings and conferences organized by SEAMEO. Everyone now seems to be talking "systems approach", a concept that was not so familiar five or six years ago. The Khmer Ministry of Education has recently set up a new office of research and planning to make full use of former INNOTECH participants. The Department of Educational Techniques of the Ministry of Education, Thailand, is finalizing a project for the establishment of a Curriculum Development and Educational Technology Center. Perhaps the most elaborate body of them all is the Indonesian Office of Educational Development (BPP), which is based on the INNOTECH concept, but in some respects is way ahead of INNOTECH. Other examples can be cited, but the above constitute enough evidence that INNOTECH has already made its impact in the region.

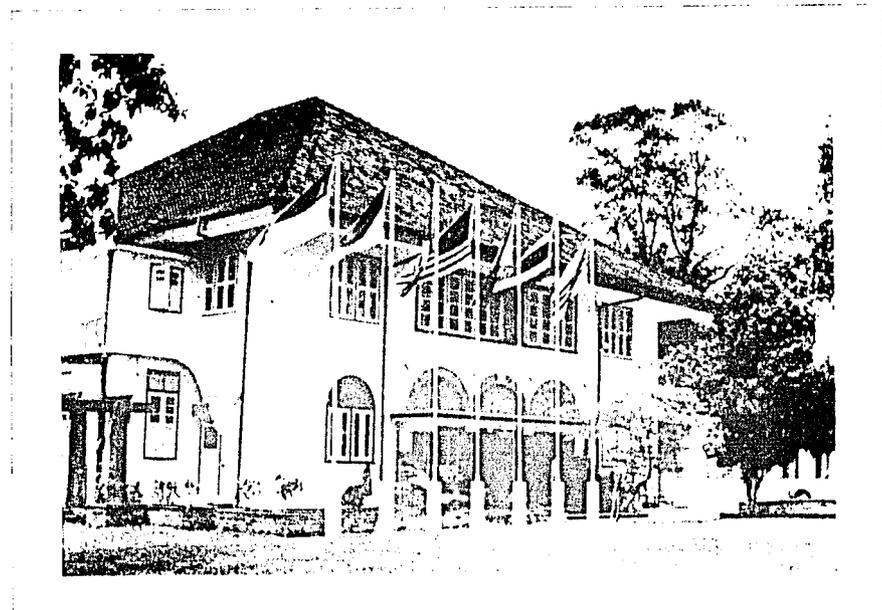
It all started in 1968 when the INNOTECH idea was first conceived, which grew into a project proposal

The proposal was presented by the Ministry of Education, Vietnam, to the Council of Southeast Asian Ministers of Education (SEAMEC) at its third Meeting held in Singapore in February 1968. Following the approval by the Council, developmental work on the project was carried out in 1969 by way of a series of regional and national seminars. A Five-Year Development Plan of the project was finally adopted by all concerned in early 1970. Due to the unsettled situation in Vietnam at that time, the Republic of Singapore generously offered to host the project

temporarily, and in May 1970 the building at 39 Newton Road, Singapore 11, became the home of the new SEAMEO Regional Center for Educational Innovation and Technology.

The first year of operation was characterized by a zealous staff, very limited in size (three professionals only), but overstraining itself to "sell" INNOTECH. There were a Ten-Month Interns Programme, a Three-Month Intensive Training Programme, a Board Meeting, a Workshop on Programmed Instruction, a Regional Seminar on INNOTECH, and a Colloquium on Individualized Instruction. On top of all that, a tour of the SEAMEO countries was organized for the interns and programme participants on which they carried out three small projects as part of their training. The Board was impressed by the performance, and recommended doubling the number of

*Continued to Page 4*



*Innotech Center in Singapore*

# THE INTERNS SPI



**MOUA LIA**  
LAOS

I have been in the service as a Primary School Inspector for nearly 10 years in a region which was involved in a season of war. In the meantime, I have encountered many complicated problems such as refugee teachers, students and school reconstruction programmes which were damaged by the war.

As a School Inspector, I have had the opportunity to learn a lot of the modes of living in the rural areas; besides I also have come to understand several hundreds of teachers with different backgrounds of education and from different ethnic groups.

A couple of months ago, before I joined the INNOTECH Center, I had no knowledge about the role of INNOTECH.

Due to continuous length of service mostly attached in the jungle schools and the grievances and hardships faced, I found that my knowledge of the outside world had become rusty.

At INNOTECH, during the first three months of the programme, I have had the opportunity to learn about systems approach which is a method of problem solving. In the group discussions, I have also learned from representatives of SFAMEO Countries a lot of the educational problems faced by these countries.

For the last five months, I have been assigned to an experimental project which is called programmed teaching, this project is under the management of Dr. D.G. Ellson, specialist in reading. I am quite interested in this programmed teaching, because its purpose is to assist the low quality of teachers and it may be one of the ways and means to solve one of the educational problems in my country.



**BY-BOEUN**  
KHMER  
REPUBLIC

I have had 21 years of experience in Education. I have met and have tried to solve some educational problems in primary schools as well as in secondary schools. But I have felt that we could never satisfy both the existing needs and the increasing ones because we, Asians, have a lot of constraints, such as shortage of funds, of instructional materials, of buildings etc... and especially of competent personnel. By "competent personnel" I mean foreign experts.

After three months of intensive training at INNOTECH, I realize that all the above constraints are age-old assumptions, we have a lot of effective alternative solutions to overcome these constraints. Let's examine "foreign experts". They cannot do anything for us unless we try. We, Asians, understand our own problems well. "There is good reason to believe that once the situational prerequisites for innovation are established, the Asians may easily move into the forefront..." This reminds me of a French proverb: "Aide-toi, le ciel t'aidera." Another reason for Asians to work out their own problems is because education is a continuous process.

INNOTECH does not only tell me what to do but also how to do it, namely, by using the systems approach. That is why I would like to say that systems approach is very helpful. Each of its steps of problem solving bears on my attention without my knowing.

I am eager to put into practice what I have learned here as soon as I am back home.



**SANITH  
MANIRATH**  
LAOS

I am grateful that I have been given the opportunity to join the interns programme of the INNOTECH Center. I was a teacher's training instructor in the English section and concurrently acted as supervisor at DongDok, Vientiane.

After six months of training, I think that the nomination of teachers to attend INNOTECH programmes is really important and necessary for educational planning. I have gained some knowledge about educational technologies and Systems Approach in order to develop new methods that can be applied to societal and political needs in my country.

After an intensive training of three months I was selected to participate in a research group, directed by Mr. Anwar Jasir.

This project is designed to develop a model of life skills objectives for primary education. We prepared models to try out life skill objectives in schools in Singapore.

We chose 14 primary schools for field interviews. This type of a project is very new and very interesting to me. I think that now I have got some ideas from what I have learned here at the Center to bring back home.



My previous job was in the Ministry of Education. At INNOTECH, I was involved in the development of textbooks and preparing especially for school teacher training. I realized that a problem of failure in teaching aids, when applied systematically, can be a major obstacle to the concept, educational and technology maximal benefit. A well-planned and re-arrangement-like changing teaching, of teacher's role, of achievement puts an emphatic approach to change.

I think, the understanding of selecting into and technology better preparation of teaching materials



**IBRAHIM  
MUSA**  
INDONESIA

Sometimes people limit their interpretation on educational technology to using machines in

educational programmed teaching materials of the advanced technology. In the field of management using education can make efficient and economic needs.

# NO MORE SCHOOLS?

Seaview January 1980

**P**Primary schools throughout Sealand are closing! School bells no longer ring. On visits to three isolated villages during the past week this reporter did not see one class in session. In response to my questions about the cause of this calamity, I received tolerant smiles from villagers and was told time and again that "our concern is not with schools, it is with the education of our children."

What has happened in Sealand is a revolution in education. Seven years ago, budgets of these countries were strained simply to provide education for one-half of primary age children; today, even in remote villages, essentially all children are receiving primary education. The concept that has brought about this revolution is the one voiced in my recent visits to Sealand villages -- "our concern is not with schools, it is with the education of our children." A totally new system of primary education has been based upon this concept, and it represents a dramatic departure from the familiar and traditional primary school classes of my own youth.

How did this new system about? It started with the South Asian Ministers of Education Organization (SEAMEO), a cooperative effort on the part of eight countries in Southeast Asia to pool their resources in an attempt to solve pressing educational problems common among the countries of the region. The organization, in planning for the future, documented its planning under

the title of "Educational Development Programmes for the 1970's", and a high priority was assigned to the development of an effective and economical delivery system for mass primary education. The 1970's have passed, and the "no school" education which I recently saw in Sealand villages is the outcome of SEAMEO's far-sighted planning for the 1970's.

## Mon Lia Goes to "No School"

Mon Lia is the 10-year old son of a farmer in a village of Sealand. In questioning him, his parents, the district education inspector and others in the village I was able to piece together the following picture of the educational revolution through the eyes of those who are taking part.

Q: Mon Lia, what grade are you in?

Mon Lia: I don't know.

Father: We don't have grades or classes any more. Mon Lia, tell him what modules you have completed.

Mon Lia: In Language I have completed module 23, in Science module 17, in Mathematics 15, in Social Studies 12, and in Applied Projects 28.

Q: I don't quite understand. What is a module?

Mon Lia: It is a learning unit that usually takes me about a week to finish.

Q: Is it a chapter in a textbook?

Mon Lia: No, I don't have any textbooks. A module can be lots of things. Most times it is a self-instructional booklet of about twenty pages that I can do by

myself. Of course, I do have to ask somebody to help me sometimes. Other times a module might ask me to work with a shopkeeper, or a carpenter or even the village headman. Once a bunch of us helped the district health officer on a project to drain water from some areas to get rid of mosquitos.

Why don't you use textbooks?

strict Inspector: We found that it would be a lot cheaper to have modules because we don't need so many. For example, once Mon Lia finishes a module he turns it in and somebody else can use it. Having a textbook is like carrying around twenty or thirty modules, even though a child can only read one chapter at a time. Mon Lia, let him see your Science Module 18.

(Science module 18, as I examined it, most certainly was not a textbook. In the first place, the pages were fairly thick - probably some kind of plastic. I was told that much money was saved because the plastic pages allowed the module to be reused many times without deterioration. It could even be cleaned up after being dropped in a puddle of water - boys will be boys in any country. The content of the module was in the national language and I couldn't read it, but it clearly was a lesson on the human heart, and it included a number of three-color pictures. There wasn't much of the usual textbook about it. Obviously, it was some form of programmed instruction with places for Mon Lia to answer and to check

Q: We have been talking all afternoon about modules, but I have no idea how many modules constitute primary education.

District Inspector: The number varies in each subject, but the average number is about fifty.

Q: Getting back to the Instructional Supervisor - it appears that he is more a manager than a teacher.

District Inspector: That's very close to the truth. Let me list some of the duties of the IS:

- ... select and train teaching aides from the community in specific duties.

- ... assign tutorial responsibilities to older students and train them in these functions,

- ... conduct PTA meetings to orient and train parents for the self-management of their children's studies,

- ... survey community resources and enlist persons with specific skills to assist students to "learn by doing" for some of the applied modules,

- ... monitor all instructional and evaluation activities,

- ... maintain student records of progress, giving particular attention to those who are progressing unusually slowly as a basis for counseling with students and

parents,

- ... maintain a complete inventory of the learning centre, including instructional modules, equipment and tests, repairing or replacing as needed,

- ... provide feedback to the central government on the assets and liabilities of given instructional modules as a basis for improvement,

- ... serve as an advisor to the communities on educational matters.

Q: I'm still confused. It was a lot more understandable when there was the school, the teacher and textbooks. It seems that everybody in the village is somehow involved with the new system.

Father: That's about right. Students are helping students, parents are helping their children and specialists in the community are acting as part time aides. We couldn't do this on our own, though. We need the structure that is provided by the learning modules, and we need the organization, management and counsel of the Instructional Supervisor.

Q: I can guess your answer to this last question: How is the system working?

Father: If you mean if there are

problems, the answer is yes. There is often some kind of mixup, but it is getting sorted out fairly well.

If you mean if children are getting a primary education, the answer is a definite yes. No matter how fast they are progressing, there has yet to be a student in this village who has given up and stopped.

If you mean if children are in school, the answer is no. This is a "no school" village. **OUR CONCERN IS NOT WITH SCHOOLS, IT IS WITH THE EDUCATION OF OUR CHILDREN!**

Note: There is very little chance that a reporter will ever write the above article because many of the ideas presented are a bit fanciful; we do not know how feasible they may be. The INNOTECH research programme is being geared to conduct a series of long-term studies in an effort to develop a prototype system which can provide the region with an economical means for the delivery of primary education.

Although the news reporter of 1980 probably will not see a primary education system as described above, it is INNOTECH's firm hope that, when he visits a rural village, he will see a new and workable delivery system based upon the joint efforts of this Centre and the SEAMEO countries.

# EAK OUT:

**PRACHAK  
DEEPRAWAT  
THAILAND**

at the Ministry before attending to be in charge of production and AV materials, special studies, for I have never seen existing problems in using those which could be solved and effectively in classroom use. The INNOTECH innovation will bring about results if they are part of a wide range of educational methods of curriculum, the standard. This concept is on the system or systems educational

efore, that the f basic skills in active solutions s will result in ion and pro- extbooks and s.

activities. Pro- tns, audiovisual aids, nines are one aspect nt of educational It is more into the dministration and It is true that by onal technology we education more l more meaningful nical for human



**TEO  
ENG CHUAN  
SINGAPORE**

**B**efore I joined INNOTECH, although I had heard about systems approach, I knew nothing about it.

After three months of intensive training at INNOTECH, I now have come to understand that systems approach is an orderly process to develop a solution, a process which is structured to minimize prejudicial preconceived notions and which maximizes the objective required to arrive at a scientifically correct answer.

To me, systems approach is something like scientific method. As a science teacher and a person who has close contact with science education for so many years, scientific method is quite familiar to me.

Since I joined INNOTECH, I have learned the skills and gained knowledge necessary for educational planning, decision-making and application of realistic change strategies. During the large-group discussions and small-group discussions, we exchanged ideas among ourselves and we learned from each other. Thus, I know about the educational problems in ASILAND. What is more, we have made friends among ourselves.

But what, when and how do we use educational technology? Nobody will ever be able to decide on the kind of educational technology unless we have a guide, namely systems approach. The systems approach will show that in selecting the kind of educational technology we want to use, much depends on objectives, resources and constraints. Then there should



**ISHAK  
B. KHAMIS  
MALAYSIA**

**B**efore coming to Innotech, I was the headmaster of Sekolah Menengah Gurun, Gurun, Kedah. This two-mediumed school (i.e. Malay and English) is situated along the main road about 22 miles from Alor Star (the capital).

On the 18th of September 1972, I was given an opportunity to pursue an Educational Innovation programme at the SEAMEO Regional Centre, INNOTECH, Singapore.

From September 1972 to the middle of December of the same year, I had an opportunity to study the systems approach towards solving educational problems in Southeast Asia.

At present I am involved in the Beginning Reading project under the leadership of Dr. Ellson. This project started in early February 1973 and is scheduled to be completed sometime in the middle of May. For the experiment 10 schools were selected in the Pontian District of Johor, Malaysia.

Here, at INNOTECH, I am given the opportunity of meeting friends from eight member countries. Through them I have learned about educational problems and achievements which sometimes have similarities and also differences with that of my country.

be try-outs. INNOTECH provides and introduces to us the concept of educational technology in its relation to many kinds of educational innovation in Southeast Asia, and other countries as well, to solve basic educational problems. After an intensive three-month training I am now involved in the training project



**OUM SAM  
KHMER  
REPUBLIC**

**V**oilà bientôt 20 ans que je suis dans l'enseignement. Et je peux dire sans fausse modestie que je connais les enfants Khmers, les instituteurs Khmers et leurs problèmes. Avant mon stage à INNOTECH, je travaillais comme secrétaire général du bureau permanent pour le programme de l'enseignement primaire.

Bien sûr, je suis pas à pas ce que fait INNOTECH, je participe aux différents séminaires sur l'éducation, organisés dans mon pays. Mais je ne me sens pas encore à la hauteur de la tâche qui m'a été confiée. J'ai beaucoup de difficulté en ce qui concerne la formulation des objectifs, la répartition adéquate du contenu du programme.

Les trois premiers mois de mon séjour à INNOTECH m'ont donnée des idées sur le "systems approach". Formuler des objectifs en termes mesurables et en termes de performance d'élèves est l'une des conditions nécessaires pour le succès de l'éducation.

En plus de ce qui est directement utile à ma tâche particulière, INNOTECH m'a ouvert un large horizon sur la technologie de l'éducation.

J'espère que je pourrai apporter quelque chose de nouveau à mon travail et améliorer de beaucoup l'éducation de mon pays une fois que je suis rentrée.

that is preparing programmed instruction modulars as one alternative for INNOTECH to train key educators from SEAMEO member countries, in applying educational technology.

I believe that it will be very useful for me on my return, to consider this project as one aspect of educational technology in solving educational problems.

From Page 1

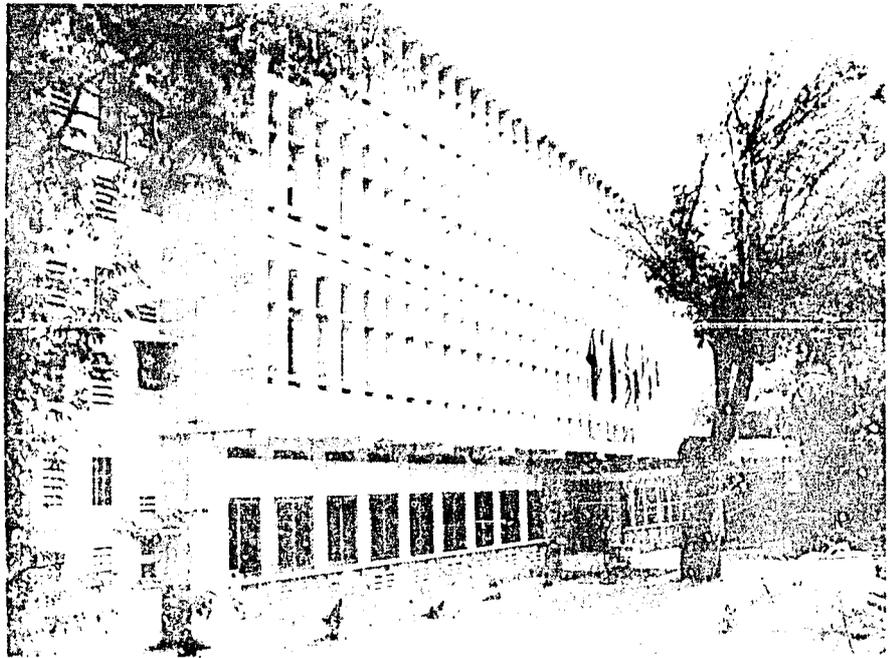
interns and the number of three-month programmes.

These recommendations were dutifully carried out during the second year. Highlights of this year were the seven national seminars on Primary School Curriculum, and a Regional Practicum on Alternatives in Education (See INNOTECH Newsletter Vol. I, No. 4 page 3). This year was also marked by an important event: the transfer of the Center to Saigon, which had been scheduled for July 1972, was finally postponed due to unforeseen circumstances.

And thus, we had a third year of operation in Singapore. The Center is now fully staffed, both administratively and professionally. This favourable situation has allowed us to accomplish things that would not have been possible otherwise.

The monthly INNOTECH Newsletter was started in October 1972, and feedback has been most encouraging. The interns and three-month programmes have been evaluated and completely overhauled. A new direction for training and research has been adopted which promises faster yields in terms of tangible products. Two major research projects which SEAMEO has entrusted to INNOTECH, are now under implementation (see INNOTECH Newsletter Vol. I, No. 4).

A model for deriving priorities among educational objectives is being edited for publication; it is hoped that it will prove useful to the member countries concerned. An English Listening Comprehension Programme, comprising 50 recorded units and



Interim building of Innotech in Saigon

accompanying material designed for upgrading the English proficiency of future participants, is being completed (see INNOTECH Newsletter Vol. I, No. 2). Copies of the programme will be sent to the SEAMEO member countries before the end of this year.

A new delivery system using non-professionals as teachers of first grade Bahasa Malaysia is being tried out in Pontian, Malaysia (see INNOTECH Newsletter Vol. I, No. 7).

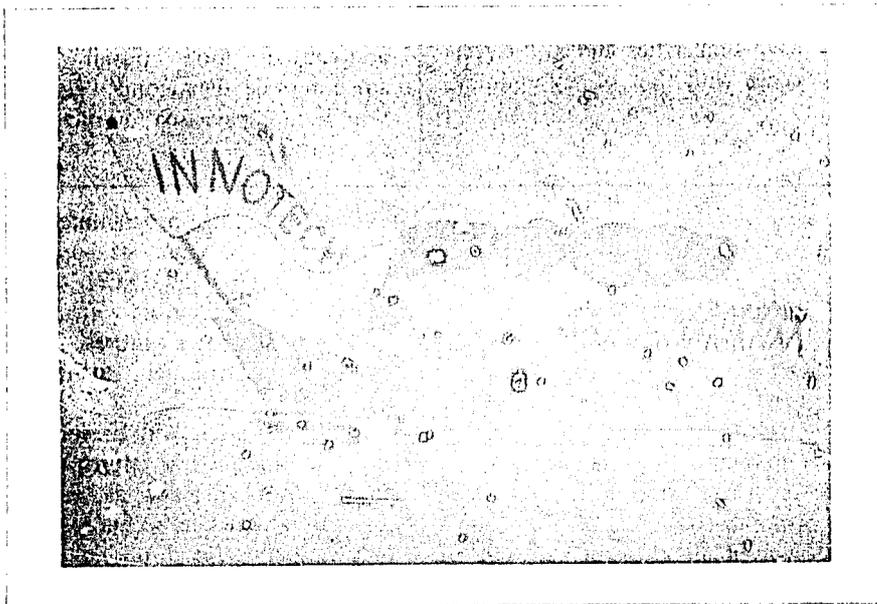
In addition, two regional seminars have been organized, one on the Problems of Promotion and Production of Instructional Materials (see INNOTECH Newsletter, Vol. I, No. 3) and another on Approaches to Effective and Economical Delivery of Mass Primary Education (see

INNOTECH Newsletter Vol. I, No. 4). Final report of these seminars are now under press.

June 1st will see the culmination of the third interns programme and the fourth three-month programme conducted by the Center. This ceremony, together with a farewell party, will constitute the Center's last major exercise in Singapore.

INNOTECH will then move to Saigon, its second and permanent home. Many are the friends we will leave behind. We have come to love this beautiful Garden-city which has seen the birth and growth of the Center. Our most sincere thanks go to all who have made this growth possible, to the organizations and agencies for having provided the needed technical and financial assistance, and especially to the Government and people of the Republic of Singapore for the hospitality and kindness extended to us. The building at 39 Newton Road will remain in our hearts with all the happy memories attached to it.

Thank you and goodbye!



Note: This is the last issue of the fiscal year. The next three months, June, July and August 1973 will be devoted to the transfer of the Center to Saigon and to its reinstatement at its new Headquarters, 35 Le Thanh Ton, Saigon. The next issue will appear on September 1, 1973.

# LIFE - SKILLS OBJECTIVES

**F**EWER than one-half of the children in the Southeast Asian region are either denied the opportunity for education or forfeit this opportunity sooner than they should. The region cannot afford such large-scale wastage of human potential. SEAMEO's awareness of this led to its requesting INNOTECH to find a solution that would give the children of Southeast Asia the basic tools they need to become both self-reliant individuals and productive citizens.

INNOTECH is actively working on two approaches to the problem. The first is an effort to develop a delivery system which will be able, even within current budgets, to insure a primary education for essentially all children. This effort is a long-range goal of the Center. The second approach is to develop a model whereby SEAMEO member countries will be able to state the explicit achievements expected from a primary education for those students who are unable to complete more than four or five years of formal school. These expected achievements are termed LIFE-SKILLS OBJECTIVES. It is essential that the short contact that so many children have with formal education be directed toward the most relevant kinds of learning that

will most benefit them as individuals and as citizens of their societies. It should be emphasized that, although life-skills objectives should prescribe desirable terminal achievements for those children who must leave school at an early age, they must not handicap the achievement of preparatory objectives by those who are able to go on to post-primary education.

INNOTECH is very pleased to summarize here the results of a life-skills objectives study which was conducted under the able direction of Mr. Anwar Jasin, a Senior Staff member from Indonesia\*. The purpose of this study was to compare empirically a number of alternative models for deriving life-skills objectives. Mr. Jasin and his staff developed two approaches for developing an initial pool of potentially valuable objectives and four approaches for determining the relative importance of the many objectives in the pool. The models were developed at the INNOTECH Center and were subsequently tried out in the Cebu City area of the Philippines where more than 500 community members enthusiastically participated in the study.

\* Mr. Jasin was assisted by Helen Mianpan (Philippines), Mr. Teo Eng Chuan (Singapore), Mr. Thai Quang Hoan (Vietnam) and Miss Sanith Manirath (Laos).

What were the models? For developing an initial pool of objectives the two models were:

1. Ask community members (selected for their different areas of expertise, e.g., businessmen, farmers, parents, etc.) to list independently 40 of "the most important specific things that a child should learn if he/she must leave school after only 4 or 5 years." These judgments were made in relation to each community member's area of expertise.
2. Given a set of predetermined categories of behavior, ask community members to list ten specific behavioral examples within their area of expertise.

*Continued on Page 4*



Mr. Anwar Jasin

# PREPARING « MINORITY GROUPS » FOR « MAJORITY EDUCATION »



« Look! It's easy! It's OUR language! »

ON the central highland plateaus and in the far corners of the north-central mountains of South Vietnam live some twenty-five ethnic minority groups, comprising up to one million of South Vietnam's 15,000,000 people. Their languages are not mutually intelligible to each other and are very different from the national Vietnamese language. These language differences and accompanying social differences could very well become one of South Vietnam's more difficult problems if not adequately handled.

Since the late 1950's these ethnic minority groups have been getting conscientious attention from the Government of the Republic of Vietnam in constructive efforts to raise their status and enable them to become a viable part of the socio-economic life of the country.

This is a monumental task because of the language barrier, and one of the programs which

the government has inaugurated to help overcome this basic obstacle is an elementary school curriculum in the minority languages — The Highlander Education Project. In 1966 the Summer Institute of Linguistics was asked to assist the Ministry of Education in this project in a real push to get literacy materials to the ethnic minority groups in their own languages.

Because of the thousands of syllable possibilities in the Vietnam ethnic minority languages it was necessary to devise a set of focusing drills for the teaching of these languages. A set of these syllable drills focuses on one new item in four different kinds of environment: (1) isolating new letter from a picturable word (2) putting it with letters already studied (3) lining it up in a column to fix its shape in mind of pupils (4) and contrasting it with others of its own kind and position.

This procedure aims at « fixing » new elements in the pupils' mind rather than helping the pupils memorize them (which is virtually impossible anyway, considering the number of syllable possibilities that exist in his/her language). The resultant primers have proved to be very successful in teaching reading and writing as well as arithmetic, health-ethics-science, and spoken Vietnamese. The materials so have been specially prepared so that they are equally usable in adult education courses.

The curriculum is broken down into three grades: a special preparatory grade which aims at making the pupils completely literate in their own tongue; a first grade which aims at familiarizing the pupils with some of the Vietnamese first grade curriculum (the material is still taught in the mother tongue), and a second grade which gives more of

the Vietnamese curriculum, but this time at least half of the teaching is done in the national language. After the second grade, except for the culture-folklore books, textbooks and teaching are only in the national language.

A few of the more noticeable benefits of « The Highlander Education Project » have been the sharp decrease in the high dropout rate of first-year pupils, and an increased confidence in the school system. This last point is very important since it is probably one of the major reasons why The Highlander Project is succeeding in preparing the Minority Groups of Vietnam for Majority Education.

For more information on this project, please contact Dr. Richard L. Watson, Director, S.I.L., Box L-11 Saigon, Vietnam.

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## GRETA HAS LEFT US!



THIS is Miss Greta Librata who has been with our staff as Associate Specialist for the past 3 years. She left Saigon on September 28 to go back to

the University of Indonesia, to resume her position as Lecturer and Coordinator of English Language Teaching. The staff wishes to thank her for her most valuable services and to express its gratitude to the Government of Indonesia for having seconded her to the Center. She broke our hearts when she left, but we hope she will come back again in the future.

# THE RADIO : AN ELEMENTARY MATH TEACHER

## INTRODUCTION

**T**HE Institute for Mathematical Studies in the Social Sciences (IMSSS) at Stanford University has proposed to design, implement, and evaluate, in collaboration with personnel in a developing country, a system of teaching elementary mathematics using radio as the primary means of instruction because of its relatively low cost, its ability to cover a wide area, its proven effectiveness in instruction, and the widespread existence of radio facilities.

During the time allocated to the project, a complete instructional program in mathematics for three primary grades will be fully developed and preliminary work will be completed on materials for the three remaining grades. The core of the program will consist of daily radio lessons approximately twenty minutes in length. Following each broadcast there will be additional activities and exercises for the children to do under the direction of the classroom teacher.

The Institute's primary concern is to deliver to the schools a modern, well-constructed course of instruction which can be utilized by teachers who are not fully qualified. At the same time the program will contribute to the long-term goal of upgrading teachers through the radio lessons themselves, special broadcasts to the teachers, teacher's guides, and teacher training workshops.

Although many subjects can be taught by a radio course, mathematics is a good choice for this project. The importance of an adequate mathematics education can hardly be over-emphasized, and the improvement of mathematics education is a major concern of all countries of the world. Mathematics is particularly suitable for international cooperation because the curriculum at the primary level has reached a high level of standardization, with general agreement on content and much similarity in the order of presentation of topics. Finally, IMSSS has had extensive experience in the development and implementation of various mathematics programs.

## PROPOSED INSTRUCTIONAL SYSTEM

### Development of Curriculum

The mathematics curriculum will be developed jointly by IMSSS and host country personnel. The radio lessons will provide instruction and review in basic concepts and present exercises designed to increase computational skills. Classroom teachers or monitors will be called upon to assist during parts of the broadcast lessons. The post-broadcast activities will be closely integrated with the radio lessons, and will be under the direction of the classroom teachers.

The daily broadcast will be approximately 20 minutes long. Prior to each lesson every teacher will receive a set of materials relating to the broadcast. These will include the radio script, suggestions for the teacher, printed material for the student to follow during the broadcast, exercise sheet to be part of the post-broadcast activities, and other supplementary materials as needed.

During the broadcast the children will be required to respond actively to the radio teacher by following the lesson on the printed sheets and working exercises. The printed materials will include visual examples to help clarify what the radio teacher is communicating orally, and places for children to mark down answers to problems. These answer sheets will be collected regularly by the project staff for analysis. Collection of student responses is of crucial importance to the success of the project, and development of the mechanism for doing this will be an important part of the early pilot studies.

Following the broadcast the lesson will continue under the direction of the classroom teacher. This period of time may include such diverse activities as making a number line outside on the ground, counting with sticks, measuring the size of the classroom, or doing workbook exercises. The exercises, which will be an important part of the course, will be grouped according to difficulty and error-type, and guidelines will be provided to help the teacher allocate the different groups of exercises according to the varying needs of the children.

During the early part of the project, a tentative outline of the mathematical content of the six-year curriculum will be prepared. Full cooperation will be sought with the mathematics curriculum policy-making and development agencies within the host country.

Once the broad concepts to be taught have been identified, they will be divided into units. Each unit will then be divided into individual lessons for detailed development.

As the project personnel gain experience and are able to make more accurate judgments about language, difficulty level, and other variables, the extensive formative evaluation planned can be shortened. After the curriculum has been used for instruction, it will be revised unit by unit.

### Teacher Training

Teachers must play a crucial role in the implementation of the radio curriculum, and their cooperation and active support is essential. Although the radio broadcasts will be responsible for presenting the core of the mathematics curriculum, there is a very important role for the classroom teacher both before and, particularly, after each broadcast. There may also be an active role for the teacher during part of the broadcasts themselves. In a real sense the classroom teacher and radio teacher are partners in instruction.

The actual broadcast will be only 20 minutes long, leaving the remaining allotted time for mathematics instruction in the hands of the classroom teacher. The teacher will remain a vital part of the instructional system, although the specific nature of the teacher's role will change somewhat. To assist the teacher in developing this new role some special training will be needed. It is expected that much of this in-service training will be accomplished by the broadcasts themselves, by the supplementary materials for the children, and by the teacher's guides. Also, there may be special radio broadcasts to the teachers. However, the primary means for introducing the new curriculum to the teachers will be teacher training workshops. These will be designed to actively involve the teachers in the project. The workshops will stress the vital role the teachers must play as a partner with the radio teacher, and provide specific assistance to enable teachers to successfully carry out their new functions. Near the end of the first set of workshops, the project staff will work together with a group of teachers to produce a Teacher's Handbook that will contain important information on using the project in the classroom.

### Feedback

The collection and analysis of response data are central features of the design of this project. The failure of standard curriculum efforts to obtain detailed performance data on components of the curriculum makes overall evaluation and curriculum

improvement a matter of guesswork. By continual feedback during the course of the project, and by immediately utilizing this information to improve the program, some of the principal difficulties present in educational experiments in both developed and developing countries can be avoided.

Data will be collected frequently, perhaps every other school day during the early part of the project. This close contact will be for the purpose of collecting answer sheets and, occasionally, carrying out other formative evaluation tasks, such as interviewing the teacher and children, distributing questionnaires to be completed, and taking anecdotal notes of the mathematics classes. The staff member visiting each school also will discuss the project informally with the teacher and provide personal feedback from the researchers to the teacher. Solving the logistical problems associated with this level of communication will be a major focus of the work during the first year in the host country. Efforts will be made to avoid using this data to evaluate the teachers. Its sole intent is to evaluate the success of the program.

## EXPERIMENTAL DESIGN

### Research

Several aspects of the project will be investigated. One set of research problems center on characteristics of the lessons, such as, the time required to work an exercise, how much review to include in each lesson, and how many answers to provide during the broadcast. Another area of research will be the new role of the classroom teacher, and the effectiveness of different training procedures.

Some broader research questions will also be investigated. One important concern is to compare the effectiveness of the radio curriculum with the existing curriculum in the host country. Another area for research is to compare the effectiveness, ease of implementation, and acceptance of the program by urban and rural schools. A final example of the research to be undertaken is an examination of the effects of different levels of data collection, which may effect not only the cost of research and curriculum development, but the performance of students as well.

### Evaluation

Evaluation of all aspects of the project will be an ongoing concern. The formative evaluation will be directed toward improving the program as it is developed. Results of field trials, examination of performance data, interviews, questionnaires, and anecdotal observational data will result in the revision of broadcasts, supplementary materials, and teacher training procedures. The summative evaluation will focus on the overall effectiveness of the project as determined by the performance and attitudes of the students, the retention of students at grade level, and the cost-effectiveness of the project.

## DIRECTOR'S CORNER

by LY CHANH DUC



### GREETING from Vietnam!

Our readers will remember that, in our last issue published in Singapore in May this year, we indicated that the next three months would be devoted to the transfer of the Center to Saigon. We are happy to report that the Center is now properly installed at its new Headquarters, 35 Le Thanh Ton Street.

We had planned quite carefully for the transfer, but we had not anticipated that the ship carrying the Center's 34 tons of equipment and furniture would be almost a month late in arriving in Saigon. This delay left us exactly ten days to prepare for the Governing Board Meeting which began on 21 August. The same day also saw the Center inaugurated by H.E. Ngo Khac Tinh, Minister of Culture, Education and Youth, representing H.E. the Prime Minister of the Republic of Vietnam. It was fortunate that everything went off smoothly. We only wish to apologize for this

issue which could not come out on September First as we had wished.

Many new staff members have arrived from Indonesia, Khmer Republic, Philippines, and Thailand. We will soon be welcoming three additional members from Vietnam, a specialist from CUSO, Canada, and a consultant from France which has recently become an Associate Member of SEAMEO. Prospects are also good with regard to the recruitment of an Australian expert.

Already work on research and training has reached a momentum which seems to accelerate everyday. Our fifth three-month training programme began on October 1 with 48 participants, 6 from each SEAMEO member country. Daryl Nichols, and Winarno Surakhmad have been to the Philippines and Indonesia, trying to get local support for joint research efforts on an effective and economical delivery system for mass primary education. A detailed proposal regarding their efforts has been approved by SEAMES which has submitted it to the International Department Research Center in Canada for additional funding for the next two years.

We expect to obtain valuable inputs into our delivery system project when we hold our Regional Seminar on the « Use of Community Resources for Providing Low-Cost Primary Education », in Saigon in November.

As this is the first issue of the year we hope that our readers will feel like sending us words of encouragement and support, or even coming to Saigon for a visit to our new Headquarters.

## EDUCATOR HONOURED

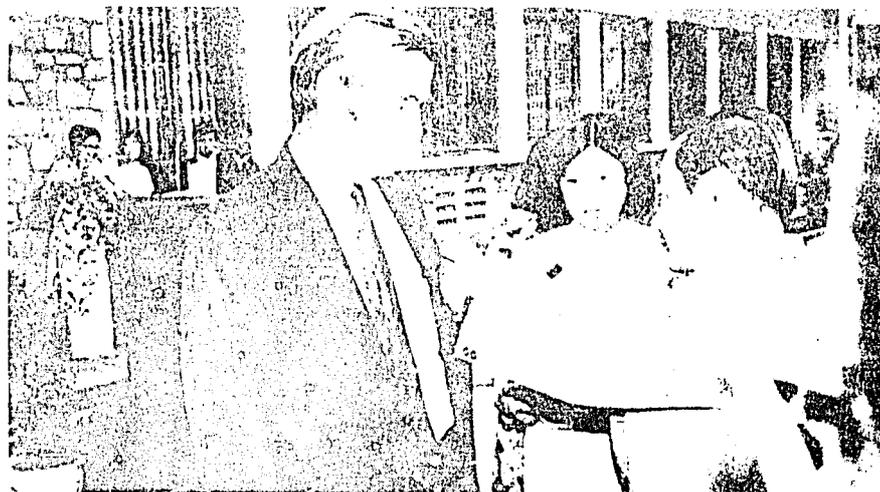
The opening ceremony of the Eighth Meeting of the INNOTECH Governing Board saw Dr. Robert Jacobs, the RED/Bangkok representative, receive the Cultural and Educational Service Medal from the Minister of Culture, Education and Youth of Vietnam. The medal was presented to Dr. Jacobs in recognition of the valuable services he has rendered to the SEAMEO countries in general and to INNOTECH in particular.

Dr. Jacobs is well known as an experienced educator in many parts of the world. Prior to his present posting as Regional Education Advisor attached to the U. S. Office of Regional Development in Bangkok, he had held various important positions through which he acquired a wide knowledge of the educational systems as well as the educational ills of this region and elsewhere.

During his six and one half years of association with SEAMEO he has become not only a familiar figure, but also a friend to all those who have been in contact with him.

As far as INNOTECH is concerned, Dr. Jacobs will be remem-

bered not only as one of its main architects, but sentimentally as a father figure whose constant attention and care helped INNOTECH grow and mature into the viable center of educational innovation it is today.



Dr. Robert Jacobs receiving Medal

## OBJECTIVES

*Continued from Page 1*

For determining the relative importance among the educational objectives in the pool, four models were tried out :

... Community members were asked simply to indicate their judgments of the relative importance of each objective for children who must leave formal school after only four or five years. (A means was provided whereby judgments of «relative» importance could be made on a ratio scale so that one objective could be judged to be four times as important as another, or one objective judged to be one-tenth as important as another, etc. This concept of relative importance or value was used in all four models).

... Community members were asked to indicate the relative importance of each primary objective in the pool using as a reference sets of desirable achievements of teenagers and of adults. (These sets of teenage and adult achievements were previously prepared by committees of community members, and they were developed as «desirable achievements of teenagers/adults who have

had no more than four or five years of primary education.»)

... Community members were asked to judge the relative contribution of each objective in the primary education pool to the set of adult achievements. (The relative value of each adult achievement for both the individual and society was judged by a separate committee of community members. Relative contribution of each primary objective was combined statistically with the relative value of each adult achievement to which it contributed in order to derive a relative value for each primary objective in the pool. This technique was described as the «value-contribution method» in INNOTECH's October 1972 Newsletter.)

... Community members were asked to judge the relative contribution of each primary objective in the pool to the set of teenage achievements. A separate committee then judged the relative contribution of each teenage achievement to the set of adult achievements. The resulting relative value of the primary objectives was derived (via the

value-contribution method) from the contribution of primary to teenage, from the contribution of teenage to adult and from the relative value of adult achievements.

What were the results? First, it was found that both methods for developing a pool of primary objectives should be used; although there was a good deal of overlap in the results from the two methods, there also were many unique objectives resulting from each method. Second, it was found that the results of the four methods for determining relative importance were remarkably similar and that the third method (relative contribution of primary objectives to desirable adult achievements) was the most sound in that it made community member focus upon the future adult behaviors of primary school leavers.

The future? A full report of the life-skills study will be published in November 1973, and the center's staff, following the recommendation of this earlier study, will refine the procedure during additional tryouts in Vietnam.

The goal? A generalized model that can be adopted for use by SEAMEO member countries in their attempts to derive meaningful and relevant objectives for primary education.

## OPENING CEREMONY & INAUGURATION

THE Eighth Meeting of the INNOTECH Governing Board was opened with the inauguration of the Center's new Headquarters in Saigon.

The ceremony was honored by the presence of H.E. Ngo Khac Tinh, Minister of Education, Culture and Youth, representing H.E. the Prime Minister of the Republic of Vietnam.

In his welcoming address, the Minister said that the Government of Vietnam took great pride in hosting «SEAMEO's youngest child to date; INNOTECH». He also pledged the Government's full support to the Center's objectives and projects.

Earlier, Dr. Sudjano, the SEAMES Director, opened his address by congratulating INNOTECH on its long but successful

journey home and by pointing out that Vietnam's hosting of INNOTECH was indicative of the regional spirit which informs all SEAMEO activities.

In his address, Dr. Narcisso Albarracin, Chairman of the Board, complemented Dr. Sudjano's words by noting that the gathering of dignitaries present to witness the opening of INNOTECH was proof of SEAMEO's large measure of success in building «The bridges of Love, Goodwill and Understanding between member countries».

Mr. Ly Chanh Duc, INNOTECH's Director, then followed with a word of thanks to the Minister of Education for his support and assistance, and the distinguished guests for their presence at the opening ceremony.



*Opening Ceremony and Dignitaries*

In a final remark, the Director said that despite all the difficulties encountered during and after the move from Singapore to Saigon, «it was good to be home.»

Following the addresses, the Minister of Education declared the meeting open and presented Dr. Jacobs with the Cultural and Educational Service Medal.

Regional Seminar

USE OF COMMUNITY RESOURCES IN PROVIDING LOW COST PRIMARY EDUCATION

The next regional seminar will concentrate on the use of community resources. It will be held in Saigon on 12-16 November 1973. The focus of the seminar is given in the announcement below:

INNOTECH announces the next regional seminar concerned with the economical and effective delivery of mass primary education. The February 1973 seminar on the delivery of primary education was extremely successful. The exchange of ideas provided many needed insights which have given new direction to INNOTECH's research programme.

The forthcoming November seminar is intended to give greater definition to the delivery of primary education by focusing on the use of community resources to replace or supplement those of the formal school system. The question toward which we will direct our efforts will be, "How can effective mass education be provided through the optimum use of resources within the local community?"

The Center is suggesting a change in the format of its seminars beginning with the one planned for November. We are now asking that speakers prepare thinking papers or position papers rather than simply reports of ongoing developments in their own countries. It is the Center's hope that its seminars can become the source of a dynamic interchange of ideas among member countries on key educational problems in the region. Therefore, we are requesting that the papers presented at the November seminar be thought-provoking and lead to the kinds of "brainstorming" discussions that can provide all with new insights and a fresh focus on ways in which community resources of all kinds (persons, facilities, etc.) can be used to provide effective and low cost primary education.

Attendees at the Seminar will come from each of the SEAMEO member countries (two participants from each -- one of whom will deliver a paper). There will also be five guest speaker from outside the region (see below). Numerous other persons and organizations have been invited.

Once again INNOTECH can express its appreciation to external agencies for providing funds so that outstanding participants from outside the Southeast Asian region will be able to attend.

The International Development Research Centre (IDRC) of Canada has agreed to provide funds for three persons. Letters of invitation have been sent to Colombia (Dr. Tono) and to Nigeria (Dr. Ukeje).

Dr. Simpson (Canada) Senior Programme Officer of IDRC also will participate and present a paper.

The Asia Foundation will fund the attendance of Dr. Ellson (USA) who previously was with the INNOTECH staff and who was responsible for the success of our programmed teaching project.

The United States Agency for International Development (USAID) will provide for the attendance of Dr. Jacobs who was previously the chief RED education advisor to INNOTECH and who is considered to be one of the founders of the Center.

Future Seminars

We are planning another Regional Seminar for early next year (probably late February 1974). The topic has yet to be selected, but the intention, once again, is to choose a subject which will be in support of INNOTECH's research efforts. One of the tasks of the November seminar will be to suggest appropriate topics.

The research which is now being planned for rural Vietnam on "reduced instructional time" may provide the basis for the next seminar. The basic concept in reducing instructional time is to develop means for more efficient/effective learning in primary schools. An adjunct topic to reduced instructional time concerns rescheduling of classwork to optimize use of school facilities and teacher time. Either one of these concepts may be used as the topic for the next seminar.

Research Reports

The following reports have been printed in the past six months or are presently at the printer.

Ellson, D.G., Chiam, T.W., and L.T. Kim Hai. The TECH Programme: A self-instructional programme for English listening comprehension - Final report. Singapore: INNOTECH, May 1973 (INNOTECH/TP-FR/73).

Ellson, D.G., Chiam, T.W., and L.T. Kim Hai. The TECH Programme: A self-instructional programme for English listening comprehension - the TECH book. Singapore: INNOTECH May 1973 (INNOTECH/TPM/73).

Jasin, A. The development of a model for deriving life-skills objectives for primary education. Singapore: INNOTECH, June 1973 (Working Paper):

Tiro, A.A., Sudomo, M., Maneahindan, L.F., Prachak Deeprawat, Tran Thi Bich San. Primary School Objectives, Volume I. Comparison Among SEAMEO Countries. Saigon: INNOTECH, September 1973 (INNOTECH/PE-FR/Vol. 1/73).

Tiro, A.A., Sudomo, M., Maneahindan, L.F., Prachak Deeprawat, Tran Thi Bich San. Primary School Objectives, Volume II. Representative Examples from SEAMEO Countries. Saigon: INNOTECH, September 1973 (INNOTECH/PE-FR/Vol. 2/73).

Ellson, D.G., Chiam, T.W., Le Thi Kim Hai, Ishak B. Khamis, Khamis b. Noyo, and Moua Lia. Programmed Teaching: Effective Teaching by "Unqualified Teachers". Singapore: INNOTECH, June 1973 (INNOTECH/PT(E)-FR/73).

# III. APPENDICES

- A. Technical Proposal; Delivery of Mass Primary Education  
in Rural Southeast Asian Communities
- B. Field Trip Report
- C. Community Resource Survey

TECHNICAL PROPOSAL

DELIVERY OF MASS PRIMARY EDUCATION IN  
RURAL SOUTHEAST ASIAN COMMUNITIES

Submitted by

SOUTHEAST ASIAN MINISTERS OF EDUCATION ORGANIZATION

10 September 1973

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DELIVERY OF MASS PRIMARY EDUCATION IN  
RURAL SOUTHEAST ASIAN COMMUNITIES

INTRODUCTION

In August 1972 the Southeast Asian Ministers of Education Organization (SEAMEO) established a Technical Working Group (TWG) to establish priorities for the work of SEAMEO in the 1970's. The TWG was composed of senior educators from the eight countries in the SEAMEO region, and they identified four priority areas in which SEAMEO should concentrate in the 70's:

- ... Development of Instructional Objectives by SEAMEO Member Countries
- ... Development of an Effective and Economical Delivery System for Mass Primary Education
- ... A Study of Non-formal Education in the SEAMEO Region
- ... A Study of Teacher Preparation and Utilization in the SEAMEO Region.

The first two of the above areas were entrusted by SEAMEO to the Regional Center for Educational Innovation and Technology (INNOTECH). The work on objectives will be completed by June 1974, but the work on the delivery of mass primary education will be a major research effort of INNOTECH for a number of years.

In order to provide focus for research concerning the difficult problem of mass primary education, INNOTECH hosted a Regional Seminar in Singapore in February 1973. The topic of the Seminar was "Effective and Economical Delivery of Mass Primary Education." Knowledge and insights gained from Seminar papers, discussions and brainstorming sessions provided the basis for the initial Research Planning Document (enclosed with this proposal).

The essential theses of the planning document are:

- ... approximately one-half of children in SEAMEO countries do not complete 4-5 years of primary education

- ... this condition is most prevalent in rural communities in which some 70% of the population lives,
- ... educational budgets are already strained, and the direction of INNOTECH research should not concern ways to increase funding,
- ... traditional means of education (teachers, classrooms, etc.) cannot simply be expanded because funds are not available,
- ... non-traditional alternatives must be found which are both effective and economical,
- ... mass media is expensive (TV) and limited (radio) as a mean for delivery of rural primary education,
- ... 80 to 90% of educational costs are those associated with teachers,
- ... ways must be found to increase the student-teacher ratios (perhaps to as much as 200:1),
- ... with increased student-teacher ratios, classroom teaching is unlikely, and the role of the teacher may change to one of managing educational experiences,
- ... inexpensive community resources of all kinds (parents, skilled workers, older students, materials, buildings, etc.) should be utilized,\*
- ... students/parents may have to be responsible (self-directed) in taking advantage of educational opportunities,

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\* INNOTECH will host a Regional Seminar in Saigon on 12-16 November 1973 in an effort to gain more information on the topic: "Use of Community Resources in Providing Low Cost Primary Education."

... most learning may have to be self-instructional under the management of the teacher, but under the direction and tutoring of parents, community members and older children,

... a means should be provided for individual learning rates and exit and reentry into the educational system at any time (as one means to avoid dropouts and wastage).

From these theses (some of which may prove invalid as research progresses) the INNOTECH staff developed a delivery concept which is depicted in the Research Planning Document under the title "No More Schools?" This Community Learning Centre Concept has provided the framework for initial research planning and a summary of its characteristics follows.

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, homemaking, 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. They probably would be paid for their time at a relatively low rate compared to the Instructional Supervisor.
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 through them.
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 measured by learning modules satisfactorily completed rather than by school levels (grades).
13. All materials and records would be maintained in the community learning centre.

The Community Learning Centre Concept is not a delivery system; it only provides a starting point for applied research. It does, however, permit INNOTECH research efforts to be programmatic rather than fragmented in its effort to tease out a workable total delivery system. The research questions on pages 31-33 of the Research Planning Document have formed the basis for staff planning to date. These questions essentially ask whether the various components of the concept will work, how they can be facilitated and what changes must be made to either the components or to the total concept. The proposal outlined herein sets implicit priorities among these questions as a basis for research design.

### USE OF VILLAGE CLUSTERS AS RESEARCH SITES

Applied research to develop a delivery system for primary education must take place in realistic settings; research on rural primary education will have to be accomplished in Southeast Asian villages. SEAMEO/INNOTECH is proposing the establishment of "village clusters," as sites for research on and development of a workable delivery system. A cluster probably will consist of some 5 to 10 villages with a total primary schoolage population of about 1,000 children.

For the first full year of operation (1974-75) we are proposing two such clusters with the intention of expanding to other site(s) in the second full year. The value of at least two sites will be to enable research results to have greater generalizability and to permit developments at one site to be adapted to the needs of other sites. Both the Philippines and Indonesia have indicated a keen interest in establishing village clusters for this purpose as sites for joint research projects which would be staffed by both INNOTECH and host-country personnel. Potential locations are in Central Java (near Solo) in Indonesia and on the island of Cebu in the Philippines. The potential Indonesian site is in a high poverty area depending upon crop agriculture while the Philippines site would include fishing villages. Senior INNOTECH staff members plan shortly to visit both countries to develop specific joint research plans and participate in site selection. Some criteria which will be applied to the selection of village clusters are:

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

## ORGANIZATION FOR RURAL PRIMARY EDUCATION RESEARCH

It is proposed that each of the two field sites be staffed by 12 persons. Only two of these (Project Director and Project Associate) would be INNOTECH staff members and supported by funds sought in this proposal\*. One (Research Advisor) would be provided to INNOTECH by a donor government external to the SEAMEO region (e.s. Australia, France, Canada, New Zealand). The remaining nine on the field staff would represent the host government's contribution to this proposed joint project\*\*

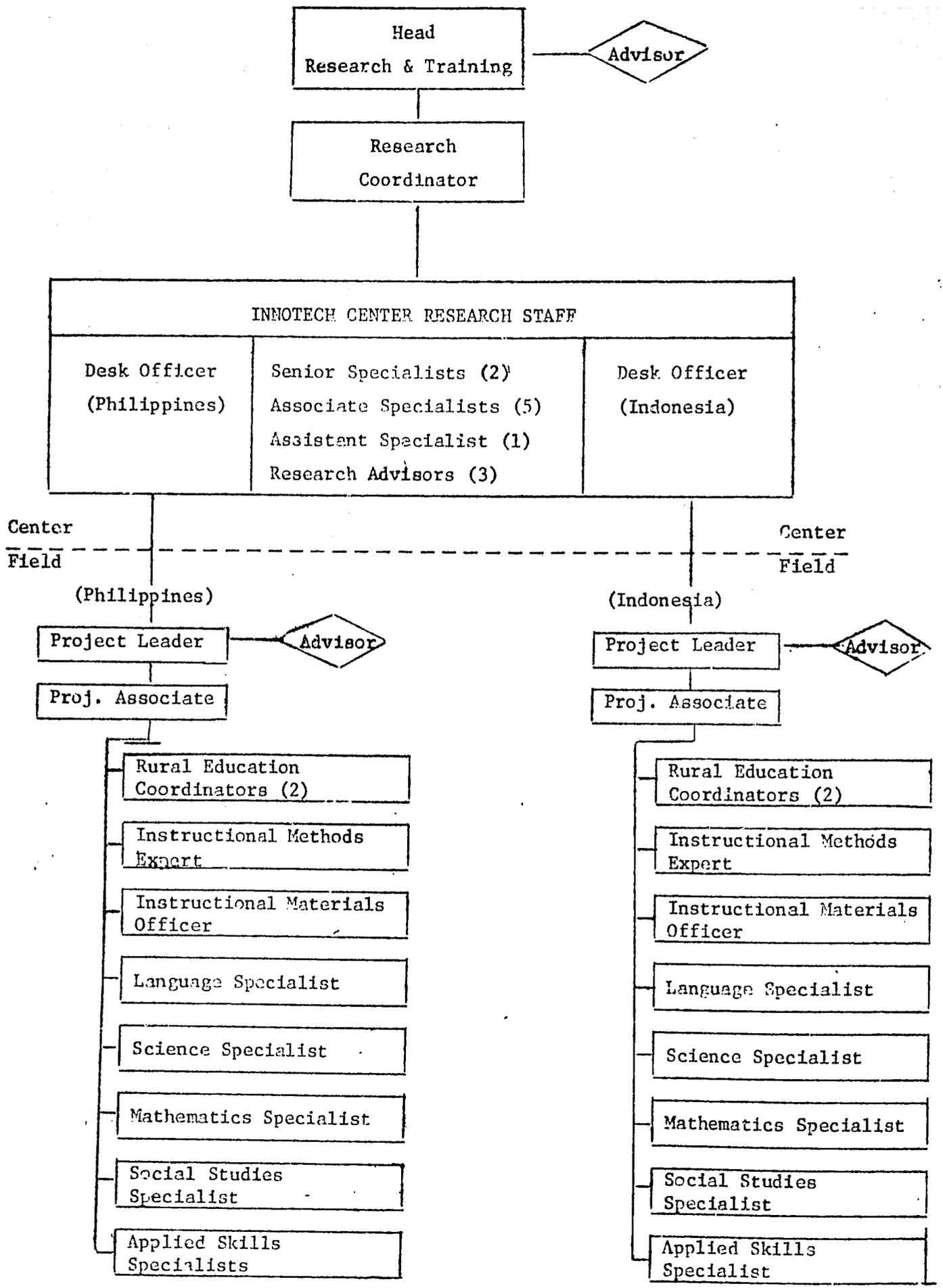
Coordination, advisory services, backstopping and supporting research would be conducted by the INNOTECH Center research staff at no cost to the proposed contract. Two staff members of which would act as "desk officers" for the two field research projects. Desk officers, who are educators from either Indonesia or the Philippines, would coordinate the activities between INNOTECH Center and the field projects and between the two field sites. This coordination will permit the INNOTECH Center staff to be responsive to the needs of the field projects and allow each site to benefit from developments in the other location.

A proposed organizational manning chart is given on the next page. The two Rural Education Coordinators would be responsible for coordinating the activities among the 5-10 villages at each site. These responsibilities would include working with present schools, community leaders, parents, resource persons etc. and arranging for tryout and organization of research at the village level. They probably will be recruited from the present school inspectorate. As the delivery system comes more and more into being, the Rural Education Coordinators would switch their roles to that of the "Instructional Supervisor" as described in the "No More Schools?" article presented in the Research Planning Document. The Instructional Supervisor is depicted in that article as the person who manages the education of some 200 students (the only professional having contact with children in the proposed delivery system).

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\*The Project Director and Project Associate, although INNOTECH employees, would be citizens of the host government.

\*\*As shown in the proposed budget, salaries of field staff members would be supplemented by funds solicited in this proposal.



The Instructional Methods Expert at each site is an expert in individualized instruction who will be able to train and monitor the work of the 4-5 subject matter Specialists. The Instructional Materials Officer would be responsible for the production of all materials. Equipment or apparatus construction and maintenance and graphic arts would be accomplished by contracting for local services. The part-time services of a variety of experts from local universities would also be funded by this proposed contract.

A Steering Committee would be established by the host governments to monitor, advise and coordinate activities of the field staff and cognizant government agencies.

The central location for field staff during the first year would not be in the villages themselves; instructional materials development will require access to the previously mentioned services (particularly publications, graphic arts and university advisory services). It is proposed therefore that the interim field office be located near universities in larger communities. The previously suggested locations could be served by Jogjakarta (Indonesia) and Cebu City (Philippines). Staff, thus, would travel to the local communities during the first year to try out materials and methods.

#### RESEARCH PLANS

The plans presented herein must, of necessity, be sketchy; specific research activities and needs will be worked out with each of the host governments,\* and modifications undoubtedly will be made once work has begun on-site. It is requested, therefore, that the sponsoring agency respond to this present proposal with the understanding that definitive research planning and scheduling is a part of the project itself and that the budget contained herein will not be changed by more than 10 per cent.

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\*Two INNOTECH senior staff members will travel to Indonesia and the Philippines in late September-early October to develop more specific plans (including site location) with the host governments.

A necessary note before discussing the research approach: It is true (see "No More Schools?") that approximately one-half of children in the region grow up speaking a dialect, and that they must learn the national language in order to progress through school. The national language is the language of instruction. For example, in Central Java the children grow up speaking Javanese and need to learn Indonesian, and on the island of Cebu they speak Cebuano and must learn English as the language of instruction. Presently children are taught the national language as a separate subject in the first three grades while also receiving instruction in other subjects in the local language. However, by the 4th grade, instruction is in the national language. If INNOTECH were using the concept of "No More School?" to attack the problem of mass primary education beginning only in the first grade, its initial research could focus solely on the problem of second language training since the national language is necessary for instruction in other subjects. We dare not focus on this single problem, however, since other priority questions about the delivery concept must be answered (Can children/parents take the responsibility for self-directed learning, and how can this best be achieved? Can a single professional manage the instruction of 200 students, and how can this best be achieved? How can community resources best be identified, enlisted and used? etc.)

Because of the restricting nature of the second language problem, a three-pronged field research approach is proposed. First, INNOTECH proposes to investigate the teaching of reading at the first grade in the local language\*. Second, it is proposed that the teaching of a second language be investigated. Third, it is proposed that initial research on other components of the delivery system commence with the fourth grade at a time when children presumably are able to learn in the national language. What is learned about the delivery system at this upper level can then be applied to lower grades (in whatever language is deemed appropriate).

Starting with the third (and most important) approach (research on the delivery system beginning at the 4th grade level), what research is tenable during the first several years?

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\*It is culturally, politically and practically necessary the children be able to read in their own dialects.

1. Determination of appropriate community resources and how to best use them, including how to motivate community participants to join in the effort: Obviously some sort of a survey of resources is needed that is related to instructional needs, community capabilities and cultural/motivational factors. The INNOTECH staff currently is developing survey instruments and methods for tryout in Vietnam and possibly Thailand in an effort to generalize resource identification techniques and to anticipate the needs of the two proposed field projects.
2. Allied to the need to come to grips with the community resource problem is the need to develop means for orienting, encouraging and directing parents to take an active role in monitoring the self-directed learning of their children. No longer will parents be able simply to send their youngsters off to a school; they will be responsible for their children's learning activities. The need to develop a way to structure the inclusion of parental participation is dictated by the charge placed upon INNOTECH to develop generalized prototype models. What will be the specific responsibilities of parents, and how best to insure that these responsibilities are fulfilled? As part of instituting the delivery system, the means for insuring parental involvement will be thoroughly investigated.
3. Another community resource that is inherent in the success of the "No More Schools?" delivery concept is that of older children being used to tutor younger children. What education levels must be reached before older youngsters can be utilized to tutor younger students? What specific responsibilities are involved? What must they know, and how can they best be trained to fulfill this role? How can an older/younger tutorial system be managed in a village, e.g., who monitors their activities and provides guidance? What pupil/tutor ratios are appropriate? What amounts of time should be spent in this way? Initially, the older/younger tutorial process would be investigated using present instructional materials - an add-on to traditional education. However, as the self-instructional concept is developed the tutor's role also will be modified.
4. Probably the most important initial step in establishing village cluster research is the development of instructional materials. The delivery concept demands that most learning be by means of self-instruction. A major field effort, therefore, must be the development of self-instructional modules. The project is fortunate in this respect because both Indonesia and the Philippines have persons who are able to prepare self-

instructional materials and to teach others the techniques (these persons have been designated earlier as "Instructional Methods Experts.") We are doubly fortunate in that both countries have relatively complete and precise primary education syllabi and objectives. The intention is that the project not develop objectives at the outset; rather the intention is to take "off-the-shelf" objectives, syllabi, textbooks, etc. and to put them into a variety of self-instructional forms. (If the government(s), via the Steering Committees, deem a change in content desirable, the project content would be changed. Also, if the government(s) decide that the application of the "life-skills objectives" methodology\* is appropriate, the project would undertake to do so.) We would not anticipate that this first go-round will produce the most optimum and sophisticated self-instructional modules possible; such refinements can best be left to a later time once a system is developed. What is needed initially is relatively sound self-instructional materials to be used as a basis for system tryout and revision.

5. Allied to the use of self-instructional materials is the notion of "learning how to learn" as indicated in "No More Schools?". The concern here is the most efficient way for children to learn how to handle their own instruction. The no-more-schools concept suggests that children will be able to learn how to use a given module from a cassette tape maintained in the learning materials center. We do not know if this is a viable idea or if other approaches would be as effective and labor saving.
6. Programmed teaching has been shown to be an effective way to teach beginning reading to Malaysian children. "Teachers" are community members or older students who have no more than 6 years of formal education and no professional training. Within several days such persons (in Malaysia) could be "programmed" to teach more effectively than professional teachers. There is a real need to explore this technique further -- to other subjects and to other grade levels.

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\*Reference here is made to the work of INNOTECH as reported in: Jasin, Anwar. The development of a model for deriving life-skills objectives for primary education. INNOTECH, Singapore, June 1973. As explained in the section of this proposal concerning INNOTECH (Saigon) research activities, the work of Mr. Jasin will be given a final tryout this year.

7. The no-more-schools concept suggests that second language training should begin with learning to understand it when spoken from before going on to the learning of reading via programmed teaching. It also suggests that spoken-language understanding could be accomplished by scheduled radio broadcasts. Both of these hypotheses (and alternative hypotheses) will have to be tested empirically.
8. Once the basic elements of the system concept have been developed, a variety of other R&D efforts would be necessary. These would include (a) the content and function of the learning center, (b) use of community persons to operate such a center - their potential capabilities and limitations for maintaining records conducting post-module tests, etc., (c) what quantities of different kinds of materials must be maintained for a given student population, (d) what specific training must be given to community resource persons, (e) the optimum "size" of modules, i.e. how long an average module should take before post tests, (f) optimum sequencing of modules and subject matter, (g) etc.

The eight areas of research mentioned above seem the most profitable at this point, but it is undoubtedly best to remain flexible and to schedule specific research once field teams are assembled. (Writers of research proposals have far too often been handicapped by their own and their sponsor's insistence on precise research steps and products. The proposed field research in its attempt developing a completely new approach to education would be particularly handicapped by restricting itself too early to a particular set of studies).

The previously mentioned areas of research would apply mainly to the two field projects. The INNOTECH Center staff, in its backstopping role, also would undertake a variety of research projects in Vietnam and other SEAMEO countries. At the present time the staff is attempting to anticipate the supporting research needs of the field projects.\* In the future most research of this kind will be developed in conjunction with field project teams. Three projects are being designed at the present time:

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\*The 12-16 November 1973 Regional Seminar on the Use of Community Resources in Providing Low Cost Primary Education is expected to produce information of help to field projects.

- ... A Generalized Methodology for Conducting Community Resource Surveys. It is the intention to develop, try out and revise a procedure for conducting resource surveys in villages. Information will be obtained which is related to village leadership, resource persons, parental education, occupations, economic situation, space availability, mass media, language, present non-formal education activities, types of entertainment which might be adapted to instruction, potential means for motivating community members to assist in an educational enterprise, the number of school age children, the numbers in and out of school at each grade level, the number of present teachers and their qualifications, etc.

It is intended that, once these methods have been successfully developed for Vietnam, they will be tried out in Thailand or in any other SEAMEO country so that they can become more generally applicable to other countries.

- ... Programmed Teaching of Mathematics/Science. The techniques which were successfully developed last year to teach beginning Malay using as teachers community members with only a primary education - hold so much promise for delivery that INNOTECH must attempt to expand the method to other subject matters, grades and countries. The first project will be in the teaching of mathematics in Vietnam.
- ... Life-Skills Objectives. Five alternative models for deriving life-skills objectives were tried out in the Philippines last year. Life-skills objectives are defined as those learning achievements which are of highest value to the individual and to society for those children for whom 4-5 years of formal education is terminal. The Philippines study was successful in that (1) the techniques were administratively feasible - community members could make the sorts of judgments asked for, (2) all 5 models produced essentially the same results (intercorrelations all were above 0.70) - a relatively surprising results because 500 different community members were involved making different kinds of judgments in the various models, and (3) the steering committee of Philippines educators reviewed and agreed with the results. The study recommended a single new model, combining aspects of several of the original models. This recommended procedure will be tried out in Vietnam in an attempt to generalize the technique for other Southeast Asian countries.

This proposal previously indicated that the field projects would begin with off-the-shelf objectives and curricula. However, if the host governments desire to establish life-skills objectives

for the village clusters, this work of the INNOTECH Center would be immediately applicable. The dual prospect of providing a means for essentially all children to complete a primary education and of providing the most relevant (life-skills) education would provide a real opportunity for a meaningful revolution in primary education in the region.

The staff presently is considering a number of other topics for research studies:

- ... Second language instruction,
- ... Methods for teaching "Learning How to Learn",
- .... Means for parental management of children's learning activities,
- ... Motivational procedures appropriate to the region, particularly those in support of community involvement and self-directed learning,
- ... Use of older students as monitors/tutors,
- ... etc.

#### Summary of the Proposed Research Approach

1. Two rural field projects will be established in village clusters in two Southeast Asian countries (most likely the Philippines and Indonesia).
2. Support for the two field projects will be provided jointly by the host government and by the sponsor to whom this proposal is addressed.
3. Each field project will be staffed by 12 persons, nine of whom will be provided by the host government and one (advisor) by external aid. Funds solicited by this proposal would support the other two members of the staff in full and would supplement the salaries of host government personnel (see Budget).
4. The INNOTECH Center staff in Saigon would provide a variety of management, backstopping and supporting services, the only cost of which covered by this proposal would be for senior staff travel in conjunction with field project activities. In addition to coordinating field activities, the Center staff would conduct a variety of research studies in support of the field projects.

5. Application of the "No More Schools?" delivery concept would begin at 4th grade level at the start of field operations. This level coincides with the time at which the national language is used as the language of instruction. Initial field efforts, therefore, will be on the development of self-instructional learning materials for grades 4 through 7\*.
6. 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.
7. An attempt also will be made to develop the most cost-effective means for teaching the national language in the early grades.
8. Once materials and personnel have been developed and trained for delivery of education at the 4th through 7th grade levels, a wide variety of implementation and managerial studies can be made. These studies will concern responsibilities and activities of students, parents, community members, programmed teachers, older-student tutors, community motivation, use of the learning center, etc. -- the gamut of activities associated with system implementation.

#### EVALUATION

In a developmental project such as is proposed herein, formative types of evaluation will have the most relevance. We need answers to the question : How well does a given activity work, and how can it be improved?

Instructional components (usually modules) of the system clearly must have measurable objectives, and pre- and post-tests will be given to measure which objectives are being achieved and which objectives are not being met. In those portions which exhibit an instructional weakness, changes will be made in regular (e.g. weekly) evaluation meetings of the staff and outside (probably university) advisors on instructional methods, curriculum and measurement. Information which will be available at these meetings (in addition to test results) will be the results of student, instructor and tutor "debriefings" (what portion of this instructional material did students find easy or difficult to learn? - and why?) The results and recommendations of the evaluation meetings will be quickly reflected in changes in the instructional materials. Over a period of several years the instructional materials should be expected to show considerable change and improvement.

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\*Elementary education in the Philippines ends with the 7th grade, whereas in Indonesia it ends with the 6th grade.

The same formative evaluation procedures can be applied to the managerial aspects of the system. Objectives will be stated, and a regular reporting system will be established to identify difficulties (whatever their nature). Reports will be used by participants in the regular evaluation meetings in an effort to correct weaknesses and overcome difficulties.

In a number of instances it will be desirable to try out and compare experimentally several different approaches to achieve a given set of learning outcomes. Statistical comparison will be made to determine which approaches show the most promise, and the regular evaluation meetings will endeavor to determine what changes to a given approach would be potentially most beneficial. Experimental studies such as these usually will be reported and disseminated if their results are considered to have value for others in the SEAMEO region and elsewhere.

Another type of comparative study will be necessary after given portions of the system are in operation : a comparison of achievements of students in the experimental village clusters with those of students in control villages which have similar demographic characteristics. Pre-tests concerning attainment levels would be given at both sites to establish baseline measures. Post-tests will be given at appropriate times to compare relative progress. Some other targets of the proposed system (reduced dropouts, increased learning speed, etc.) also will be subject to measurement and experimental/control comparisons.

Because the implementation of the system will be progressive, i.e., begun at the 4th grade level and progressing through the higher levels as materials and procedures are developed and tried out, it will be possible to make comparisons of student achievement (within the experimental methods of instruction). For example, it will be possible the first year to assess the achievements of 4th graders being taught traditionally and to compare their results with the achievements of 4th graders in the second year after they have gone through the experimental sequence. The same procedure would hold for the 5th through 7th grade levels.

Finally, summative evaluations of various kinds will tell us whether or not the no-more-schools concept succeeded. The objectives of the system will have been established in measurable terms, and the assessment of the achievement of these objectives will provide the measure of its success. Because the Southeast Asian region desperately needs some means whereby all children can have a chance for at least a primary education, we fervently hope that the proposed efforts will achieve the success which now seems so promising.

### REPORTING

Periodic three-month progress reports will be made to the sponsor through SEAMES. Non-scheduled reporting also will be made as various phases or studies are completed.

Fiscal reporting will be made by SEAMES who has the responsibility of project audits.

### SCHEDULING

As indicated earlier, research studies are not defined precisely at the present stage of development. However, developmental steps have been scheduled :

1973

- Sept-Oct... Planning and site-selection conferences in Jakarta/Jogjakarta and Manila/Cebu.
- ... Report of planning and site-selection.
  - ... Trip of SEAMES Director to secure external advisors.
  - ... Community survey methodology tried out in Vietnam.
  - ... Programmed teaching (mathematics) study designed.
  - ... Life-skills objectives (Vietnam) study designed.
- Nov
- ... Field project staff selected (except for foreign advisor)
  - ... Office space selected.
  - ... Field equipment and supplies ordered.
  - ... One-month meeting of senior field staff with Center staff in Saigon.
- Dec
- ... First year's field research designed and reported.
  - ... Submission of two-year budget and research plan to sponsor.
  - ... Offices, furniture, utilities and equipment readied.
  - ... Community survey methodology adapted and used in Philippines and Indonesia.

1974

Jan ... Self-instructional materials development begun for 4th grade level.

... Reading (local dialect) study begun.

... Reading (national language) study begun.

June ... 4th grade self-instructional materials completed after tryouts.

... Implementation of system in the national language at the 4th grade level begun.

... Reading (local dialect) study completed.

... Reading (national language) study completed.

Dec ... 5th grade self-instructional materials completed after tryouts.

... Instructional sequence for 1st grade reading (local dialect) prepared.

1975

Jan ... Implementation of system in the national language at the 5th grade level begun.

... Implementation of instructional sequence for 1st grade reading (local dialect) begun.

... Preparation of 1st grade level instructional material begun.

June ... 1st grade level instructional materials completed.

... 6th grade level self-instructional materials completed after tryout.

... Implementation of system at the 1st grade level begun.

... Implementation of instructional sequence for 1st grade reading (national language) begun.

Dec ... 7th grade level self-instructional materials completed after tryout.

1976

- Jan ... Implementation of system at 6th grade level begun.
- ... Implementation of system at 2nd and 3rd grade levels begun.
- June ... Summative evaluation completed.

SUMMARY BUDGET

	1973 - 1974		1974 - 1975		1975 - 1976	
	Philippines	Indonesia	Philippines	Indonesia	Philippines	Indonesia
Personnel	\$ 5,075	\$ 4,375	\$13,695	\$12,420	\$14,260	\$12,910
Services	2,200	2,200	4,350	4,350	4,750	4,750
Equipment	7,400	7,400	2,000	2,000	2,000	2,000
Supplies	5,500	5,500	7,000	7,000	6,000	6,000
Travel & Subsistence	--	--	11,400	12,260	12,030	12,910
Communication	200	200	500	500	500	500
Contingency	1,000	975	1,950	1,950	1,900	2,000
<b>Total</b>	<b>\$21,375</b>	<b>\$20,650</b>	<b>\$40,895</b>	<b>\$40,480</b>	<b>\$41,440</b>	<b>\$41,070</b>

Total by fiscal year : \$42,025

\$81,375

\$82,510

Grand Total : \$205,910

PROPOSED HOST COUNTRY CONTRIBUTION

1. Assist in recruiting for INNOCTECH two senior persons to serve as Project Director and Project Associate.
2. Provide 9 full-time staff members, paying base salaries:
  - ... Instructional Methods Expert
  - ... Instructional Materials Officer
  - ... Rural Education Coordinators (2)
  - ... Subject Matter Specialists (5)
3. Assist in the selection of and coordination with rural communities as sites for the proposed research and development work.
4. Provide adequate office space, maintenance, and utilities for a professional staff of 12 persons and an office staff of 6.
5. Provide complete furnishings for project office.
6. Provide gasoline and oil for operation of project vehicle.
7. Assist in the selection of necessary staff housing.
8. Establish a Steering Committee of senior officers from appropriate in-country agencies and offices; to pay all expenses related to Committee functions.

## FIELD TRIP REPORT

Dates: 21 September - 7 October 1973  
Staff: Winarno Surakhmad, Daryl Nichols

NAGA-SOLO PROJECT (Experimental field project for rural mass primary education)
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### Background

INNOTECH has been assigned the responsibility for the "Development of an Effective and Economical Delivery System for Mass Primary Education." A Regional Seminar was held on this topic in February 1973 to provide inputs for INNOTECH research planning. An initial Research Planning Document resulted which presented the "No More Schools?" concept as a starting framework for the conduct of field research studies. After the move of INNOTECH to Saigon, an additional document was prepared in September 1973 in the form of a technical proposal in an effort to secure external support for field studies. The proposal, titled "Delivery of Mass Primary Education in Rural Southeast Asian Communities", outlined complementary field studies to be conducted in rural "village clusters" in both Indonesia and the Philippines.

### Purpose of Trip

Although preliminary discussions resulting in agreements in principle had previously been held in Singapore/Saigon with officials of the two governments, it was necessary to make definitive plans in each country, to secure firm assurance for the conduct of the joint projects (INNOTECH-Indonesia and INNOTECH-Philippines), to select INNOTECH staff members in each country, to select village sites for conduct of the research, and to make any other necessary arrangements or schedules needed to facilitate the early start of the total project.

## INDONESIA

### Preliminary Meetings with the BPP, Jakarta

INNOTECH staff met with officials of the BPP (Office for Educational Planning) including Dr. Santoso Hamijoyo (Chairman), Drs. Yusufhadi Miarso (Head, Institute of Educational Development), Drs. Hussin (Head, Institute of Educational Information) and Drs. Sunardi (Institute of Educational Information). After discussions it was agreed that:

... Indonesia would support a joint project as outlined in the proposal.

- ... the project would be conducted as a formal R&D project of the BPP, probably under the coordination/direction of Drs. Yusufhadi,
- ... the location which most closely met the criteria for village selection (see proposal) was in the area of Surakarta (SOLO),
- ... the agency in the Solo area which would be most appropriate through which the work would be IKIP Solo (Teachers Training College).

#### Meeting with IKIP Yogyakarta

IKIP Solo is essentially a branch of IKIP Yogya, and it was necessary to obtain concurrence of plans with Yogyakarta authorities. Accompanied by Drs. Yusufhadi (BPP) the INNOTECH staff met with Dr. Hartono (Secretary) and selected faculty members. Agreement was reached in regard to the utilization of IKIP Solo facilities and personnel. It was also tentatively agreed that an instructional methods expert (probably Mrs. Suharsini) could be released from Yogya to assist in the project.

#### Meetings with IKIP Solo

Drs. Yusufhadi and the INNOTECH staff met with the following faculty members of IKIP Solo:

Parmanto - Deputy Rector  
Saleh Muntazir  
Sudarmono  
Sujatno  
Harjono  
Thomas Sumarno  
Supono  
Kadjeno  
Burhan Respati  
Budihardjo

At the conclusion of these meetings and site visits it was decided that:

- ... office space and furniture will be provided for the field staff,
- ... Drs. Saleh Muntazir (Dean of Education, IKIP Solo) would be released to become an INNOTECH staff member, filling the role of Project Associate,
- ... faculty and students (some 2100) of IKIP Solo would assist in instructional materials development,

... the village cluster site would be in the Kecamatan (District) of Kebakhramat, some 20 minutes from Solo. Five villages (Kalurahan) of the ten in Kebakhramat were selected for the experimental site. The villages are:

1. Macanan
2. Alastowo
3. Banjarharjo
4. Mangsri
5. Kamiri

Only the first three named above would be included initially. These three have a current primary school enrollment of approximately 1800 children. Present statistics are a bit confusing and conflicting, but it was estimated that 40-50 per cent of children do not complete the 6th grade.

- ... Drs. Saleh would collect data on the villages concerned with educational statistics and community resources/constraints during a 1½ week period (29 October - 7 November). Specifics of needed village information would be sent him from Saigon, posted from Saigon no later than 17 October.
- ... Drs. Saleh would attend a four-week research planning seminar in Saigon from 12 November through 7 December. The first week coincides with the Regional Seminar on the Use of Community Resources in Providing Low Cost Primary Education. The final three weeks would provide for detailed planning in conjunction with the Center staff and the field staff from the Philippines.

#### Final Meeting with the BPP

A final meeting with Dr. Santoso and his staff resulted in definitive agreements:

- ... The INNOTECH Project Director would be provided by the BPP. In all likelihood the Director would be Drs. Somsu Mappa who returns from overseas in November.
- ... The INNOTECH Project Associate would be Drs. Saleh Muntosir. (Both of these appointments would be contingent upon the approval of the INNOTECH Director.)
- ... The project would be a formal R&D project of the BPP, and coordination would be through that agency. This procedure would permit, among other things, the utilization of BPP and UNESCO experts (some 20 of whom are attached to the BPP) in the conduct of the study.

- ... UNICEF probably would provide a Land Rover through the BPP. Yusufhadi will request,
- ... Curriculum experts (probably outstanding subject-matter teachers) would be released to the field staff.
- ... Local offices, furniture and support would be provided by IKIP Solo.
- ... Drs. Saleh (and perhaps Drs. Samsu Mappa) would attend a four-week planning session in Saigon from 12 November through 7 December 1973.
- ... Villages in the Kecamatan Kebakkramat would provide the experimental site, and the BPP would facilitate their utilization through the Perwakilan (Head of the District Office).
- ... Very possibly, a second faculty member of IKIP Solo (expert in rural education) can be provided to act as Rural Education Coordinator.
- ... The budget, as included in the Proposal, is appropriate.
- ... The Host Country Contributions (from Proposal) also are agreeable.
- ... There should be some coordination with a community education project being conducted by UNICEF in Semarong (some 50 miles from Solo).
- ... A steering committee would be organized with the probable following makeup:

Governor of Central Java  
Representative from: EPP  
Directorate General  
IKIP Solo  
IKIP Yogyakarta  
Perwakilan (District office)

(It was undecided whether local representatives should be included herein or whether they should make up a local coordinating committee. They could include persons from the Kabupaten, village leaders, PTA and school inspectorate. Note that separate committees were recommended in the Philippines.)

In Conclusion - Indonesia

The Indonesia government at all levels was extremely supportive of our joint efforts to establish the field research project. All purposes of the trip were met or exceeded. Sincere thanks are due to the government, particularly to officials of the PPP and IKIP Solo.

PHILIPPINES

Preliminary Meetings with the Department of Education and Culture

Even though our arrival in the Philippines was unexpected (neither our letter nor cable was received), the Undersecretary, Dr. Albarracin, quickly organized a meeting of key persons:

Dr. Narciso Albarracin, Undersecretary  
Dr. Liceria Soriano, Director, Bureau of Public Schools  
Dr. Aurelio Tiro, Superintendent, Division of Cebu  
Dr. Bonifacio Sibayan, President, Philippine Normal College

It was established that:

- ... Cebu province probably should be the site of the research study
- ... the meeting agreed in principle to conduct of the joint project including providing the Host Country Contributions (from Proposal),
- ... the government would assist in the selection of the two INNOTECH staff members (Project Director and Associate),
- ... if established in Cebu, the cognizant coordinating agency would be the Superintendents' office of Dr. Tiro.

Meetings with Cebu Personnel

The INNOTECH staff was accompanied to Cebu by Dr. Tiro, Superintendent. Dr. Tiro aided in the selection of personnel, management of meetings and visits to potential sites. Several meetings were held and were attended by:

Dr. Aurelio A. Tiro, Superintendent, District of Cebu  
Dr. Concisa M. Baduel, Vice-President, University of the Visayas and Dean of Graduate School  
Dr. Rosetta Mante, Dean, Cebu Central College  
Leandro P. Sanchez, Division Supervisor, Mandana City  
Leopoldo Bas, Division Supervisor, Social Studies, Cebu City  
Celedonio B. Abayata, Academic Supervisor, Cebu Province  
Jesus N. Murillo, Instructor, Cebu Normal College

Lily K. Sabulao, Instructor, Cebu Normal College  
Maximino Alcoseba, Materials Production Center, Cebu Normal  
College  
Antonio Quisano, District Supervisor, Naga II  
Victoriosa C. Ybanez, District Supervisor, Naga II

Most participants of these meetings also accompanied the INNOTECH staff on visits to rural areas to find an appropriate "village cluster" site. Results of the meetings and visits were that:

- ... Four villages were selected along the Naga-Uling Road, three of which are in Naga I district and the other in Naga II. Naga itself is 25 minutes from Cebu City, and the most distant of the villages is 25 minutes from Naga. The villages, having a present total primary-elementary school population of 1200, are:

Naalad  
Pangdan  
Lutac  
Balirong

- ... Field staff would be provided offices and furniture in the Cebu Normal College.
- ... Dr. Baduel was nominated as INNOTECH's Project Director. Dr. Mante was nominated as Project Associate.
- ... Although commitments could not be made until funds are available the following persons have already been selected to fulfill staff positions (base salaries to be paid by the Philippines):

Mr. Abayata, Instructional Methods Expert  
Mr. Alcoseba, Instructional Materials Officer  
Mr. Bas, Social Studies Expert  
Mr. Sanchez, Mathematics Expert  
Mr. Murillo, Applied Skills Expert  
Dr. Sabulao, Science Expert  
Mrs. Ybanez, Rural Education Coordinator

- ... Project management would be coordinated with Dr. Tiro's office.
- ... Dr. Baduel and Dr. Mante would be appointed, upon approval of the INNOTECH Director, and would attend the 4-week planning session in Saigon (12 November-7 December) along with the Indonesian staff.

- ... Dr. Baduel and Dr. Mante would conduct a survey of village education, resources, etc. upon receipt of a list of information needs from INNOTECH. This information is necessary for conduct of realistic planning meetings in Saigon.
- ... Students of Cebu Normal College would be recruited to help prepare instructional materials in appropriate subject areas.
- ... The budget in the proposal was slightly low for Philippine personnel:

In 1973-74 the budget should be increased from \$21,375 to \$22, 340 (this increase, however can be taken from the \$1,000 contingency). No change.

In 1974-75, personnel costs increase from \$13,695 to \$18,510, making the total budget \$45,710. This amount, however, can be decreased by using the \$1,950 contingency, leaving a total of \$43,760. The increase, thus, is \$2,865.

In 1975-76, personnel costs increase from \$14,260 to \$19,420, making the total budget \$46,600. This amount, however, can be decreased by using the \$1,900 contingency, leaving a total of \$44,700. The increase, thus, is \$3,260.

The total increase over the 2½ years is \$6,125. The total project (Philippines and Indonesia) cost is increased from \$205,950 to \$212,035. (If additional money cannot at this point be provided by the sponsor, economics in other parts of the budget probably can cover the difference.)

#### Final Meeting

Dr. Tiro met with Dr. Albarracin to discuss all the conclusions above. Dr. Albarracin approved.

#### In Conclusion - Philippines

Once again, the INNOTECH staff was graciously received and was given every possible support. The Philippines, quite clearly, are ready to go ahead with the project. Our most heartfelt thanks.

#### CONCLUSION

The NAGA-SOLO project will be realized shortly coupling two joint projects with the host governments of Indonesia and the Philippines. Regional cooperation will begin to evidence dividends. The regional staff at the

Saigon Center, working with INNOTECH and host government staffs in the two countries, will be able to apply regional expertise to a regional problem. What is learned in the development of the two rural studies will be generalized for applicability to other member countries. The conduct of applied and generalizable research on priority regional problems is what INNOTECH is all about, as more is learned in these two companion projects, new efforts can be undertaken in other countries of the region.

Tentative schedule of activities:

17 October 1973: Letters of appointment, invitations to the Regional Seminar and suggestions for village survey information will be sent to the two countries.

12 November - 7 December 1973: Regional Seminar (one week) and planning conference (three weeks) to be held in Saigon. Participants in planning will be Center staff and the INNOTECH field staff from Indonesia and the Philippines.

1 January 1974: Start of project:

- Government staff recruitment
- ordering of equipment and supplies
- Coordination with local authorities
- Production and tryout of instructional materials
- development of guides and materials for use by community resource personnels, etc.

1 June 1974: Beginning of use of instructional methods and materials in existing schools (It is probable that the first use of the methods and materials will be as "enrichment" under the present school system--adopting later to the "No More Schools?" system.)

COMMUNITY RESOURCE SURVEY  
Preliminary Schedule

The schedule is arranged according to 7 different sources of information, starting with I. The Ministry of Education, and ending with VII. Students. Multiple copies will be necessary for sections IV. Teachers, V. Village Leaders, VI. Villagers, and VII. Students.

I. Ministry of Education

1. National Curriculum, Primary Education

- a. Obtain copies of teacher guides, objectives, teaching aids, and student texts.
  - b. Describe ways in which teachers may vary the curriculum from the National Curriculum.
2. List the titles, in order, of political and educational administrators who must be contacted in order to conduct the survey.

II. Local School Supervisor or Inspector

1. How many primary schools are there in the village?
2. Is there a secondary school in the village?

Yes

No

If yes, how many?

If no: a. Where do students attend secondary schools?

b. How far is the school from the village?

c. How do the students get to the secondary school?

3. How many of the teachers graduated from a teacher training institute, or passed a national qualifications test?

4. Is the language of instruction the same as the local language or dialect?

Yes

No

If no, are any tests administered to determine student proficiency in the language of instruction?

Yes

No

If yes: Obtain copies of the tests

If no : Could such a test be given to the students?

III. School Principal

1. How many students are there in the primary school?
2. How many are there in each grade?

<u>Grade</u>	<u>Number of Students</u>
1	
2	
3	
4	
.	
.	
.	

3. Class Size

- a. How many students are there in the largest class?
- b. How many students are there in the smallest class?
- c. What is the average pupil/teacher ratio of the whole school?
- d. How many classrooms are there?

4. What is the average daily attendance?

Number \_\_\_\_\_

Percent \_\_\_\_\_

5. What is the main reason for student absence?

6. Do students leave school for more than a week at a time, and then return?

Yes

No

If yes, are there special provisions made for this?

Yes

No

If yes, describe the provisions

7. Are there students who should be in school, but are not?

Yes

No

If yes: a. About how many primary school age children are not in school?

b. Why are they not in school?

8. Last year how many children drop out of school in each grade?

<u>Grade</u>	<u>Number Leaving</u>	<u>Percent Leaving</u>
1		
2		
3		
.		
.		
.		

9. How many teachers are there in the village?

10. How many of the school teachers live in the village?

If any: a. Were they born here?

b. How long have they lived there?

c. Do they influence village life in areas other than education? (Describe)

11. Is there a military installation near the village?

Yes

No

If yes: a. How far away and how big is it?

b. Describe the relationship between the military personnel and the villagers.

12. How many hours per day does a student attend school?

How many days per week?

13. How many classes are held in one room per day?

14. Does one teacher teach the morning class, and another teacher teach the afternoon class?

Yes

No

If no, describe the teachers' schedules.

15. a. Describe how students get to school, (the means, length of time and cost of transportation).

b. Describe how villagers get to places and services outside the village.

IV. Teachers

1. Do students ever help teach other students?

Yes

No

If yes, describe how, and what subjects.

2. Do students participate in any village activities, for example building a class room or donating things to school?

Yes

No

If yes, describe.

3. What skills and information are you teaching in addition to the national curriculum?

4. Does the school have enough materials to teach the national curriculum?

Yes

No

If yes, how do you get the materials?

If no, list the materials you need.

5. List the activities that students do for fun, both in and out of school.

6. When children drop out of school, what do they do?

7. Is there any type of teachers' organization (including a union)

Yes

No

If yes: a. What percent of the teachers belong?

b. Describe the function of the organization.

8. Is there a local Parent-Teacher Association, or other parent-school organization?

Yes

No

If yes, describe their function.

V. Village Head, and other local leaders

1. How many households are there?
2. How many people?
3. What is the number of children of school age?
4. Is there a village council?

Yes No

5. Are there any social, civic, or religious organizations or groups?

Yes No

If yes:

<u>Name of</u> <u>Organization</u>	<u>Number of</u> <u>Members</u>	<u>Functions</u>
---------------------------------------	------------------------------------	------------------

6. Are there any student or youth organizations?

Yes No

If yes:

<u>Name of</u> <u>Organization</u>	<u>Number of</u> <u>Members</u>	<u>Functions</u>
---------------------------------------	------------------------------------	------------------

7. a/. List names, addresses, and work of the other village members who informally influence or have something to do with work, business, recreation, religion, and education such as giving advice, organizing work or recreation, leading, helping to introduce or encourage change.

<u>Area</u>	<u>Name</u>	<u>Address</u>	<u>Work</u>
-------------	-------------	----------------	-------------

b/. How do they influence?

8. a/. List names, addresses and work of the following kinds of people in the village.

<u>Area</u>	<u>Name</u>	<u>Address</u>	<u>Work</u>
Agricultural agents health workers army personnel merchant or trader persons with other special skills (health, carpentry, mechanics, elec- tricity, plumbing, arts & crafts)			

b/. In which of these areas above you need more help? Describe.

c/. Which other areas would you like help in? Describe.

9. List the religions of the village.

<u>Religion</u>	<u>% of Villagers (who believe in each religion)</u>
-----------------	--

10. Do villagers volunteer to help on projects like: boy scouts, building community buildings, building roads, teaching adult evening classes, speaking to groups of villagers? etc.

Yes

No

If yes, describe the project, number of villagers who participated, how long it took ect.

If no, why not.

11. What villagers might be willing to volunteer their services to an educational programme?

Describe the services they could render.

12. Does every home have a radio?

Yes

No

If no, are radios shared?

Yes

No

13. What kinds of programmes are listened to?

14. What languages are the broadcasts in?

15. Are there any newspapers brought into the village?

Yes

No

16. Is there a library or a reading room.

Yes

No

17. Are government pamphlets distributed?

Yes

No

18. How many T.V. sets are there in the village?

19. Are the T.V. sets shared?

Yes

No

If yes, describe.

Are there any public T.V. sets?

Yes

No

If yes, how many & where?

20. What programmes are watched?

21. After the farming or fishing seasons are over.

a. What occupational activities do the villagers engage in.

b. What recreational activities do the villagers engage in.

22. List and describe the recreational activities of the adults of the village that are pursued year round.  
(Include participant and spectator activities)

23. List and describe the recreational activities of the children of the village.  
(Include participant and spectator activities)

VI. Villagers

Name of respondent

House Number

Name of Head of Household

1. What times of the year are most convenient for your children to go to school?

2. What time of the day is the best for your children to go to school? For how long?

3. Would you or any member of your family be willing to volunteer to teach the school children special skills?

Yes

No

If no, why not?

If yes: a. What skills?

b. What training or experience do you have?

c. How often could you work?

d. What day(s)  
What time(s)  
and for how long?

4. Do your children help other children with their lessons?

In the family:

Yes

No

Outside the family:

Yes

No

If yes, describe

If no, why not

5. At what times during the day would your older children be available to tutor? and for how long? what subject?

6. Do you now monitor your children learning activities?

Yes

No

If yes, describe

If no, why not

7. Do you own a radio?

Yes

No

If yes: a. What programmes do you listen to?  
At what time of the day?

b. In what language are the broadcasts that you listen to?

c. Do people from other households listen to your radio?

Yes

No

If no: Do you ever listen to other peoples' radios.

Yes

No

8. Do you buy newspapers?

Yes No

If no: Does anyone in your family read a newspaper?

Yes No

If yes: About how often? What do they usually read?

9. Is there a library or a reading room in the village?

Yes No

If yes: Does anyone in your household use the library or the reading room.

Yes No

10. Does your household receive government pamphlets or magazines?

Yes No

If yes: Does anyone in your household read them?

Yes No

11. Does anyone in your household read written public announcements?

Yes No

12. Do you own a television set?

Yes No

If yes: a. Do other people watch your television set?  
How many?

Yes No

b. What programmes do you watch?

If no: Do any members of your household ever watch anyone else's television set?

Yes No

13. After the farming or fishing-season is over
- a. What occupational activities do the members of your household engage in?
  
  
  
  
  
  
  
  
  
  
  - b. What recreational activities do the members of your household engage in?
14. What recreational activities does your household participate in all year round?. (List both participant and **spectator** activities)
15. What kinds of things do your children do for fun? (Include both participant and spectator activities)
16. Children's educational levels  
(Include children age 6-18)

Age of  
Child

In School  
Grade

Out of School  
Grade Reason of  
finished Leaving

17. Have any members of your household other than your children completed or gone beyond primary education? (Primary Education here means everything up to Secondary School)

Yes

No

If yes: Who & grade completed

18. If any one in question 16 & 17 completed or went beyond primary school, would any of these people be willing to work in the school to help teach the children.

Yes

No

19. Can any members of yours household speak, or read or write languages other than the local language?

Language

Speak

Read

Write

20. List and describe the work activities performed by household members.