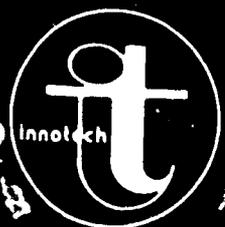


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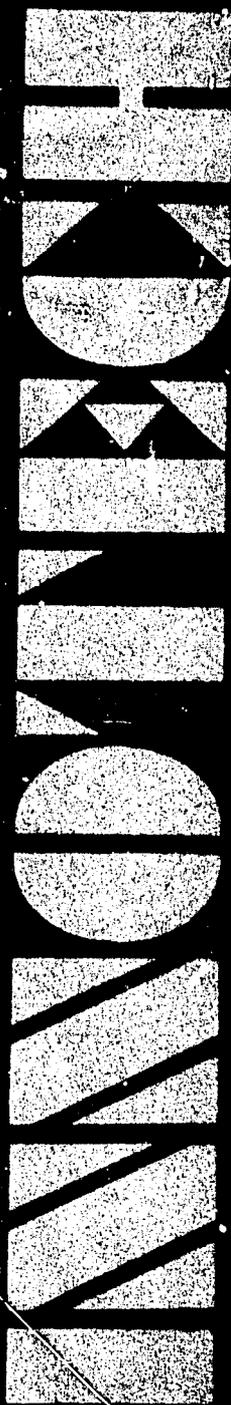
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SEAMEO Regional Center for Educational
Innovation and Technology

ANNUAL
REPORT
1974



ANNUAL REPORT (1974)
Introduced by
A SHORT HISTORY OF INNOTECH

Southeast Asian Ministers of Education Organization
Regional Center for Educational Innovation and Technology

**SEAMEO Regional INNOTECH Center
P.O.Box 3049-Saigon-Vietnam**

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FOREWORD

It is with humility and gratitude that I present the last Annual Report of this Center's interim phase of operations. I am humble in the recognition of the great efforts that went into the development of INNOTECH before my joining this Center in February of this year. And I am grateful to the many thoughtful, creative, and dedicated persons who, over the years, have given life and strength to the INNOTECH concept.

As we at INNOTECH take up the challenge of our first five years of permanent operation, it is well that we reflect upon the history of its development so that we might be more appreciative of the effort that has gone into making the Center one of which we can all justifiably be proud. For this reason, the 1974 Annual Report is introduced by a short history of INNOTECH. We have entitled the first three years the "Formative Years" because during that time the concept of INNOTECH was clarified. This period was followed by a one-year "Planning Phase" in which the Interim Project Office was established in Bangkok. The training and research programs of the Center took shape during our "Three Years in Singapore," and they are continuing through our "Beginnings in Saigon."

We wish to express our appreciation to the many individuals and organizations who have helped the Center in its development. In particular, we would like to acknowledge the kindness of the Government of the Republic of Singapore in hosting the Center for three years, and the kindness of the Government of the Republic of Vietnam in providing unfailing support to the Center since its move to Saigon.

*Pham Van Cung
Director*

SEAMEO REGIONAL INNOTECH CENTER
SUMMARY OF PROGRESS REPORT

The activities of INNOTECH in 1974 encompassed training, research, information and clearinghouse, special programs and services, and advanced planning.

In training, 93 key educators from the eight SEAMEO countries graduated from our three-month training program on educational planning, decision-making and strategies for change. In addition, 26 participants learned basic self-instructional programming techniques during a two-week workshop in November. In 1975, the three-month program will be continued for 94 participants; two more two-week workshops on special topics will be held for 48 participants; and a nine-month applied research program will be begun for 16 participants.

In research, the Center's efforts have been almost totally directed toward the development of delivery systems for mass primary education. Project IMPACT, as being developed in rural villages of Indonesia and the Philippines, is our attempt to use a community learning center concept to support the learning activities of a substantially larger number of children under the management of fewer professionally trained teachers. In both countries, instructional materials and procedures have begun in the 4th grade, moving to the 5th grade next year and to the 6th in the year following. Project RIT, as being conducted in both urban and rural settings in Vietnam, is redesigning the instructional process so that students' learning time and teachers' classroom time can be reduced in order to allow more children to utilize present school facilities and personnel. Twenty short segments of learning have been selected to represent all different types of learning and grade levels in the Vietnamese curriculum. A variety of instructional procedures have been tried out, and RIT is now moving into its experimental phase. The implementation of projects IMPACT and RIT will require most of the next five years.

A SHORT HISTORY OF THE SEAMEO
REGIONAL INNOTECH CENTER

- Formative Years (1966-1969)
- Planning Phase (1969-1970)
- Three Years in Singapore (1970-1973)
- Beginnings in Saigon (1973)

FORMATIVE YEARS (1966-1969)

The concept of a SEAMEO Regional Center for Educational Innovation and Technology emerged during the formative years in response to a variety of needs voiced by member countries during this period. These needs concerned a desire for improvements in instructional materials, textbooks, educational media, audio-visual education...all of which were included within the more-encompassing concept of "educational technology." Further guiding concepts in the development of this Center were that traditional educational practices were failing to solve the crucial problems in the SEAMEO Region and that problem-oriented research was needed in the search for alternative and innovative solutions. Thus, the basic concepts of INNOTECH emerged during the formative years of 1966-1969.

1966

The urgent need for more and better instructional materials was recognized by all SEAMEO member countries at a Technical Workshop held in Kuala Lumpur in July, 1966. Workshop recommendations were further developed as proposals by the SEAMEO Interim Secretariat for consideration by the Ministers at the Second SEAMEC Conference in Manila in November, 1966. The proposals dealt with instructional media, reflecting the widespread need for improvement of instruction and included a proposal for a regional textbook center, a proposal for a regional program in educational radio and television, and a proposal for a regional instructional materials seminar. The latter proposal was approved for implementation and the interim secretariat was asked to plan further study of the textbook, and the radio and television proposals.

1967

A SEAMEO Instructional Materials Workshop which was held in May, 1967, in Saigon, proposed the establishment of a Regional Audio-Visual Center.

The concept of a more comprehensive Regional Instructional Materials Center was given greater impetus by two papers. In July, 1967, Mr. James S. Miles of the National Association of Educational Broadcasters of Washington D.C. discussed the three previous project proposals concerning Book Development, Educational Radio and Television, and Instructional Materials with SEAMES officials as well as officials of the Ministries of Education of Singapore, Malaysia, Vietnam and the Philippines. Mr. Miles submitted to SEAMES a preliminary paper entitled "A Plan for the Southeast Asian Regional Center for the Study and Development of Educational Innovation and Technology."

The Miles paper appears to have much in common with another paper entitled "The Potential of Newer Instructional Media for Education

Development in the Countries of Southeast Asia," presented at the Instructional Materials Workshop by Dr. Robert Jacobs, Regional Education Advisor, USAID. In his paper, Dr. Jacobs proposed the creation of a Southeast Asian Center for Educational Technology.

Both the Miles and Jacobs papers gave broader scope to Instructional Materials to include book development and educational radio and television. Both emphasized the need for innovation and development of newer approaches to education in the Southeast Asian countries. Both called for creative thinking in a comprehensive manner with a view eventually to unveiling some new paths -- unconventional ones perhaps -- which would help solve the difficult problems that education in the region faces.

The Ministry of Education in Vietnam then took the initiative in following up on SEAMES efforts and late in 1967 prepared a preliminary plan for the establishment of a Regional Center for Educational Innovation and Technology (INNOTECH).

1968

The plan was put before the Ministers for tentative approval at Third SEAMEC Conference held in Singapore in February, 1968. It was agreed:

1. that the Council approve in principle the proposal submitted by the Republic of Vietnam for the establishment of a Regional Center for Educational Innovation and Technology in Saigon, Vietnam;
2. that the Council direct SEAMES to appoint a task force and make necessary arrangements for it to initiate plans relative to the establishment of the proposed center.

At the request of SEAMES, the Ministry of Culture, Education and Youth in Vietnam prepared a detailed proposal which was outlined at the Second Meeting of Project Directors/High Officials in Bangkok in June 1968. An agreement subsequently was made in which the U.S. Government granted \$36,500 to assist in the development work of the Project.

A meeting of specialists was held in American Samoa in October, 1968. The purpose of the meeting was to generate ideas about educational innovation in Southeast Asia, to develop materials for working papers, and to expose key SEAMEO education officials to a program in action, demonstrating the systems approach and the application of educational technology to specific education problems. At the Samoa meeting, the specialists "unanimously endorsed with enthusiasm the idea of a SEAMEO Regional Center for Educational Innovation and Technology and urged that it be made operational as soon as possible."

1969

The Government of Vietnam presented a revised proposal and "Plans for Further Action" to the Fourth SEAMEC conference in January, 1969, in Jakarta. It was agreed that:

1. the Council re-affirms its interest in the proposal submitted by the Republic of Vietnam for the establishment of a Regional Center for Educational Innovation and Technology in Saigon, Vietnam;
2. the Council takes cognizance of the slow but fruitful developmental work of the Project during the past year, and approves the "Plans for Further Action" submitted by the Republic of Vietnam;
3. in view of the great merit of the Project, the Council urges that it be given support by member countries so that the Proposed Center may be operational as soon as possible;
4. the Council directs SEAMES to give whatever assistance the INNOTECH Interim Project Office may need to carry out the proposed "Plans for Further Action."

Thus, the formative years ended with a clear mandate to develop definitive plans for a Regional INNOTECH Center.

PLANNING PHASE (1969-1970)

In March, 1969, an Interim Project Office was established in Bangkok under the direction of Mr. Ly Chanh Duc, Project Coordinator. The interim Project Office set out immediately to plan and implement a series of activities leading toward the completion of a Five-Year Plan.

The first activity of the series was a *Regional Seminar on Educational Innovation and Technology*, held in Singapore in May, 1969. Participating in the Seminar were three delegates from each of the initial seven SEAMEO member countries and a large number of consultants and observers from within and outside the region.

The Seminar reviewed in detail the Project Proposal for the establishment of a Regional INNOTECH Center, and decided that the proposed Center was effectively designed to serve an urgent need of the region: namely, to assist the SEAMEO member countries in identifying and resolving their basic educational problems through systematic and innovative approaches.

The Seminar further recommended that instruction in the systems approach be a major component of the training program at the Center



*INNOTECH's Planning Phase - National Seminars
provided bases for Center's establishment*

Educational problems of recognized urgency in Southeast Asia were also identified and discussed, and were referred to the Center for future study.

A plan of action for the remaining part of the year was presented by the Project Coordinator and adopted by the Seminar. Among the various activities included in this plan were *National Seminars* to be organized in each SEAMEO member country with a view to exposing a greater number of educators to the philosophy, objectives, and role of the INNOTECH Center, and obtaining data and information relative to the problems and needs of each member country. National Seminars were held in the seven SEAMEO member countries in June and July of 1969. Information and ideas generated in each of the seven sessions provided a basis for a *Second Regional Seminar* on INNOTECH which was held in Bangkok in October, 1969. Seminar participants worked out details for the (a) training and research programs, (b) organization and staffing, (c) legal documents of the Center, including its Constitution, and (d) INNOTECH national programs and centers to be established in each of the member countries.

A lengthy list of recommendations, based upon the recommendations of the groups, was adopted by the Seminar at its closing session. This list formed the basis for drawing up the Five-Year Development Plan of the Project.

Immediately following the Second Regional Seminar was the *First Meeting of the INNOTECH Interim Governing Board*, held in Bangkok in October, 1969.

Members of the First Governing Board were:

<i>Indonesia</i>	: Mr. Kartomo Wirosuhardjo
<i>Laos</i>	: Mr. Kao Outsama
<i>Malaysia</i>	: Mr. Kum Boo
<i>Philippines</i>	: Mr. Juan L. Manuai (Chairman)
<i>Singapore</i>	: Dr. Lau Wai Har
<i>Thailand</i>	: Mr. Charoon Vongsayanha (Vice-Chairman)
<i>Vietnam</i>	: Mrs. Bui Thi Lam.

At the invitation of the Interim Project Office, the Board members and their advisors also participated in the Second Regional Seminar. This special arrangement was made to enable them to familiarize themselves with the development of the Project so that they would be in a better position to act as a policy-making body.

The Board reviewed and adopted the recommendations of the Regional Seminar with a few amendments. It recommended further that (a) a Five-

Year Development Plan be prepared before the end of 1969, (b) the second Board meeting be held before the January, 1970, SEAMEC conference so that the members could review and approve the Five-Year Development Plan before its submission to the Council, and (c) a plan for an interim year of operation, beginning in July, 1970, be developed with the establishment of the Interim Project Office located outside Vietnam on a temporary basis.

1970

The Second Board Meeting was held in Kuala Lumpur on January 17, 1970. The Board reviewed in detail and unanimously adopted the Five-Year Development Plan produced by the Interim Project Office. The Board also reviewed and approved a plan for an Interim Year of Center Operations in Singapore.

Mr. Ly Chanh Duc was nominated as the Interim Center Director. The Fifth SEAMEC Conference, held in Kuala Lumpur in January, 1970, approved Mr. Duc's appointment and adopted the Five-Year Development Plan with the following objective and functions.

The *objective* of the Center is to assist the SEAMEO member countries in the identification and resolution of their basic educational problems, and to this end the Center will carry out the following *functions*:

1. create and develop new approaches to education - approaches which are particularly suited to Southeast Asia - deriving ideas from all possible sources;
2. supply adequate facilities and professional resources and provide an unfettered environment to permit selection, development, and testing of potentially valuable innovations;
3. attract to the Center outstanding creative thinkers and innovators who will assist with research and experimentation in new educational systems and instructional materials;
4. promote and undertake research and experimentation, dealing with common problems identified within the region, leading to the creation of prototype solutions which can be tested and adopted in the National Centers;
5. train key and selected personnel from member nations to implement (1) and (4), through seminars, workshops, and training courses;
6. provide library and information services: collection, codification, and dissemination of all educational data from world-wide sources;

7. Establish model testing and evaluation procedures and standards;
8. Coordinate activities with the member countries' National Centers, and with related SEAMES, UNESCO, and similar projects.

In May, 1970, an Agreement was entered into between the Government of the Republic of Singapore, the Government of the Republic of Vietnam, the Government of the United States, and SEAMEO, establishing the Center's legal status in Singapore, and specifying the obligations of the signatories in regard to the Center. The Government of Singapore, in particular, agreed among other things "to make available, with no rental charge, suitable buildings and grounds for housing the INNOTECH's interim training and research activities, and to support its operations by providing maintenance and custodial services for these premises.

The Singapore Government also agreed "to provide for INNOTECH and its staff, during the interim operations, the same privileges and immunities which are accorded the SEAMEO Regional English Language Center located in Singapore." The Interim Project Office in Bangkok moved to Singapore in mid-1970, and occupancy of the Interim Site at 39 Newton Road was completed in August.

THREE YEARS IN SINGAPORE (1970-1973)

Although interim operations in Singapore were initially approved for a single year, conditions in Vietnam did not warrant the relocation of the Center until July, 1973. The Government of Singapore most graciously extended its support to the Center for a three-year period.

1970

The first 12-month Intern Program began in September, 1970, with eight participants. The purpose of the program was to train educators in the systems approach and to assist them in the development and conduct of research programs.

The *Third Meeting of the Interim Governing Board* was held in Singapore in September, 1970. The Board recommended that (a) the Council express gratitude and appreciation for the generosity of the Government of Singapore, (b) until conditions permit the transfer of the Center to Saigon, the Council authorize the Interim Director to make arrangements with the Government of Singapore to continue to serve as interim host, and (c) the Council approve the Program of Activities and Budget for the fiscal year 1971-72.



INNOTECH's First Home - 39 Newton Road, Singapore

A Five-Day Workshop on Programed Instruction was organized at the INNOTECH Center, December 14-18, 1970, for the benefit of Singapore educators. This was a pilot project jointly sponsored by INNOTECH, the Singapore Ministry of Education, and UNESCO. Participants in the workshop, totaling 23, included lecturers at the Teachers' Training College, Superintendents, Inspectors, Principals and Teachers.

The workshop was conducted by the professional staff and interns of the Center, with the assistance of a UNESCO consultant and two specialist-educators from the Ministry of Education. It was a "programed workshop" on programed instruction; the idea was to teach programing skills in a variety of "programed situations."

1971

At its sixth conference held in Saigon in January, 1971, SEAMEC approved the second year of operation in Singapore and decided that in the event the Republic of Vietnam was ready for the transfer of the Center to Saigon the Council be officially notified at least six months prior to actual transfer. Again the Government of the Republic of Singapore graciously offered to host the center for another fiscal year ending in June, 1972.

A First Regional Conference on Educational Innovation and Technology was held at the INNOTECH Center in Singapore in February, 1971. Participating in the Conference were twenty-five key officials from the eight* member countries and consultants and observers from various national and international organizations and agencies. The Conference was planned as the first in a continuing series of annual conferences on the present and potential use of educational innovation and technology in the SEAMEO region.

Twenty-four participants from all eight member countries attended the first *Three-Month Program* on Regional Projects which opened in April, 1971. The Programme was designed to be a work program, not a study program. The participants were to serve as temporary INNOTECH staff members to help carry out three regional projects. Each country was asked to send three different types of participants, one participant to each of the following projects:

1. Project CLEAR, a clearinghouse and information exchange program on educational innovation and technology;
2. Project ACTION, a project to develop relevant and innovative methods of teacher training;
3. Project PROGRESS, a project to re-examine primary education.

During the first five weeks at the Center, the participants went through a series of exercises. A three-week study-tour followed during

* Khmer Republic joined SEAMEO in 1971.



*First Twelve-Month Interns Program -
Certificate Awarding Ceremony, August 31, 1971*

which the participants, together with the professional staff and interns, visited the eight SEAMEO member countries. The last three weeks of the program were spent at the Center.

In July, 1971, the Center hosted a *Colloquium on "Individualized Instruction"* featuring Project Plan (Program of Learning in Accordance with Needs) as presented by the man responsible for Project Plan, Dr. John C. Flanagan. An Audience of some 450 persons participated in the colloquium.

The Fourth Meeting of INNOTECH Governing Board was held in Saigon in July, 1971. The Board elected Dr. Narciso Albarracin as Chairman (of the Board) to replace Dr. Juan L. Manuel who had become Secretary of Education, Philippines. In addition to discussing and approving the Center's programs and activities, the Board developed definitive guidelines for the future relocation of the Center to Saigon.

The Second Interns Program began in July, 1971, (to end in June, 1972) with 16 participants from member countries. The First Interns Program which had started on September 1, 1970, was concluded on August 31, 1971. The interns were considered as temporary staff members of INNOTECH. Their training was combined with the INNOTECH research projects, with lectures held to a minimum, so that "learning by doing" could take place through simulation exercises, group discussions, conduct of research, and the preparation of reports.

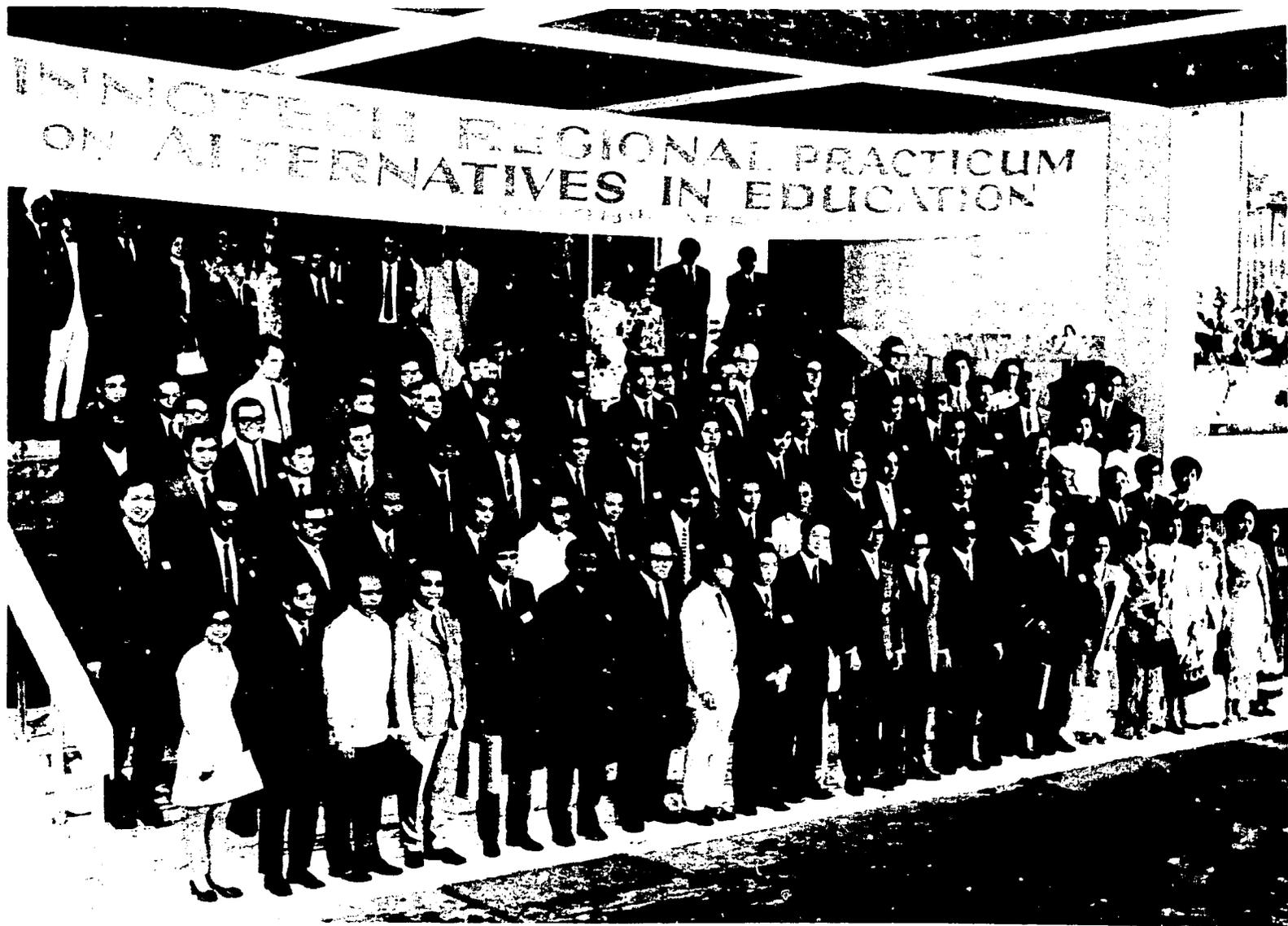
Following preliminary discussions between SEAMES and the Government of Vietnam, the *Fifth Meeting of the INNOTECH Governing Board* approved a plan of action for the transfer of the Center to Saigon. This plan of action, subsequently revised, stipulated the transfer to take place by July, 1972.

Professional Staffing by the end of 1971 was provided by five specialists from the Region and two external advisors, in addition to the Center Director.

1972

Seven National Seminars were held in 1972 under the auspices of INNOTECH. INNOTECH staff presented papers at each of the seminars and in three of them gathered data for a study of priorities in primary objectives. The papers were based on one written by Dr. Sim Wong Kooi entitled "INNOTECH Concepts," and modified to suit the requirements of those who presented the papers.

The Second Three-Month Program began on March 20 and ended on June 3, 1972, with 24 participants from member countries.



*A Regional Practicum heard Dr. Ivan Illich -
"The Alternative to Schooling"*

The TECH Program for English Listening Comprehension was undertaken to: (1) develop a self instructional program to improve the English listening proficiency of INNOTECH trainees in their own countries *before* they join the INNOTECH training program and (2) prepare instructions for adaptation of the program to meet the needs of other SEAMEO centers... essentially a prototype package to be adapted to the unique technical language needs of SEAMEO centers. Tryouts began in April, 1972, and were completed before the end of the year.

The AED/INNOTECH Seminar on Educational Technology took place in Singapore in April, 1972. The Academy of Educational Development joined with INNOTECH to present a program on Educational Technology attended by the INNOTECH staff, Interns, and Three-Month Program participants.

The first two days were devoted to a discussion of country reports on the use of educational technology as presented by interns and Three-Month Program participants, and to a discussion of papers on educational technology presented by representatives of AED to the INNOTECH group. The final two days were devoted to a discussion of an AED Handbook on Educational Technology in the developing countries and a film on Educational Technology in El Salvador and Nigeria which was shown on the first morning of the seminar.

A Regional Practicum on "Alternatives in Education" was held in Singapore from April 24 to 28, 1972. The practicum provided a forum for the 105 participants to discuss current educational practices in relation to alternatives to the traditional system. The featured speaker was Dr. Ivan Illich, Director of the Intercultural Center for Documentation, Cuernavaca, Mexico, who spoke on "The Alternative to Schooling."

At the *Sixth Meeting of the Governing Board* in Vientiane, in May, 1972, the Vietnam delegation made an official statement proposing that the Center transfer be postponed for six months. A part of the statement reads: "However, in view of the legitimate concern of the SEAMEO member countries with regard to the present situation in Vietnam, we believe that it would be much better if the Center were rescheduled to move to Saigon by January, 1973. In other words, it is our belief that a six-month postponement of the transfer will make things easier for everyone."

The Board was most sympathetic to the proposal, and, after a lengthy discussion, recommended a postponement for one full year, instead of six months. Shortly afterwards, the Ministry of Education, Vietnam, notified SEAMES and the Ministry of Education, Singapore, by cables and letters, that the recommendation had been approved. The Ministry of Education, Singapore, was also asked to allow INNOTECH to continue using the present premises for another year. Although the building had already been committed for other purposes, the Ministry of Education, Singapore, graciously obliged.

Following meetings of the *Technical Working Group* organized by SEAMES in Bangkok, July-August, 1972, INNOTECH was assigned to implement two projects:

1. Development of Instructional Objectives in SEAMEO Member Countries;
2. Development of an Effective and Economical Delivery System for Mass Primary Education.

The *Third Interns Program* started on 16 September 16, 1972, with 16 participants.

The *Third Three-Month Training Program* was held in October-December, 1972, with 23 participants. This program began INNOTECH's series of three-month courses on educational planning and decision-making.

The *SEAMEO/DSE Regional Conference on Problems of Promotion and Production of Teaching Materials in Southeast Asia* was held in Singapore, October 30 to November 2, 1972. It was jointly organized by SEAMEO and the Deutsche Stiftung für Entwicklungsländer (DSE) and hosted by INNOTECH at the new RELC building. The five-day Conference discussed extensively the age-old problems of software and hardware of instruction, and came up with several recommendations for SEAMEO to follow up.

The *Seventh Governing Board Meeting* was held in Singapore in November, 1972. Of particular concern to the Board was (a) INNOTECH's implementation of the two Technical Working Group Studies on educational objectives and the delivery of mass primary education, and (b) the ability of SEAMEO Centers to recruit competent professional staff specialists from the Region. The following resolution was prepared for submission to SEAMEC:

"That SEAMEO Ministries of Education will increase their efforts to identify and make available to the SEAMEO Center qualified specialists for professional staff positions, and would make arrangements for release of individuals selected by the Center concerned as being especially fitted for particular posts."

The Center's implementation of the Technical Working Group's recommended studies began in November, 1972, with the preparation of a *planning document* related to the study of educational objectives. The document outlined three studies, which have since been completed. They were:

1. Comparative Study of Present Educational Objectives of SEAMEO Countries;
2. Development and Tryout of a Model for Deriving Life-Relevant Objectives of Primary Education;

3. Dissemination of the Indonesian Model for Priority-Setting among Educational Objectives.

In December, 1972, a second *planning document* was prepared to give preliminary guidelines for the "Development of an Effective and Economical Delivery System for Mass Primary Education." It covered (a) "programed teaching" for the use of primary school graduates for the teaching of beginning reading, and (b) an outline of a procedure for developing a total delivery system (the present Project IMPACT).

At the end of 1972, the *professional staff* consisted of eight regional specialists and three external advisors, in addition to the Director.

1973

A *Special Meeting* was held in Saigon in January, 1973. It had been determined that the reorientation of INNOTECH's activities as approved by the Seventh Governing Board Meeting would require more personnel and more working space than previously planned. Therefore, this special meeting was needed, with participation by SEAMES, RED, and INNOTECH to discuss this problem and related issues: namely the proposed budget for fiscal year 1973-1974 and the plan for the transfer of the Center.

The meeting was attended by high officials representing the Vietnam Ministry of Education and representatives from INNOTECH and RED. Discussions focused on the funding of the research and development projects entrusted to INNOTECH by SEAMEO, a funding scheme for the Center's permanent period of operation and budgetary procedures for the 1974 budget.

A *Seminar on "Effective and Economical Delivery of Mass Primary Education"* was held in Singapore in February, 1973, as a first step towards the implementation of one of the projects SEAMEO had entrusted to INNOTECH, "Development of Effective and Economical Delivery System for Mass Primary Education."

The purpose of this seminar were, first, to expose educators and educational administrators of the region to new approaches in primary education that have been tried out in the region and elsewhere, and secondly, to obtain inputs from the participants as to how INNOTECH could best implement the project.

There were three participants from each SEAMEO member country. In addition, the seminar was fortunate to have representatives from Brazil, El Salvador, and Ethiopia to share their ideas and expertise.

The *Fourth Three-Month Program* . began in March, 1973, with 24 participants.

**SEAMEO REGIONAL INNOTECH CENTER
CERTIFICATE AWARDING CEREMONY AND LEAVE-TAKING CEREMONY
FRIDAY 1ST JUNE 1973**



Farewell to Singapore, June, 1973

A preliminary joint proposal on *Human Resource Development in the Lower Mekong Basin* was prepared by TROPMED, SEARCA and INNOTECH and was submitted to the Mekong Committee in Tokyo, April, 1973. (This proposal has subsequently been revised- see the Advanced Planning section of the report).

An initial *Planning Document for the Delivery of Mass Primary Education* was completed in April, 1973. The present Project IMPACT was outlined.

The first of June, 1973, was the culmination of three years of operation in Singapore. On this day, the Center held a Leaving-taking Ceremony and a Certificate Awarding Ceremony for the Fourth Three-Month and the Third Interns Programs. The Ceremony was officiated at by the Vice-Consul of Vietnam to Singapore in the absence of Mr. Truong Buu Dien, the Consul General, who was at that time out of the country. We were honoured with the presence of Mr. Kwan Sai Kheong, Permanent Secretary, Ministry of Education, Singapore, and other dignitaries.

In June, 1973, INNOTECH moved to Saigon, taking with it many pleasant memories of Singapore and a feeling of growth and accomplishment.

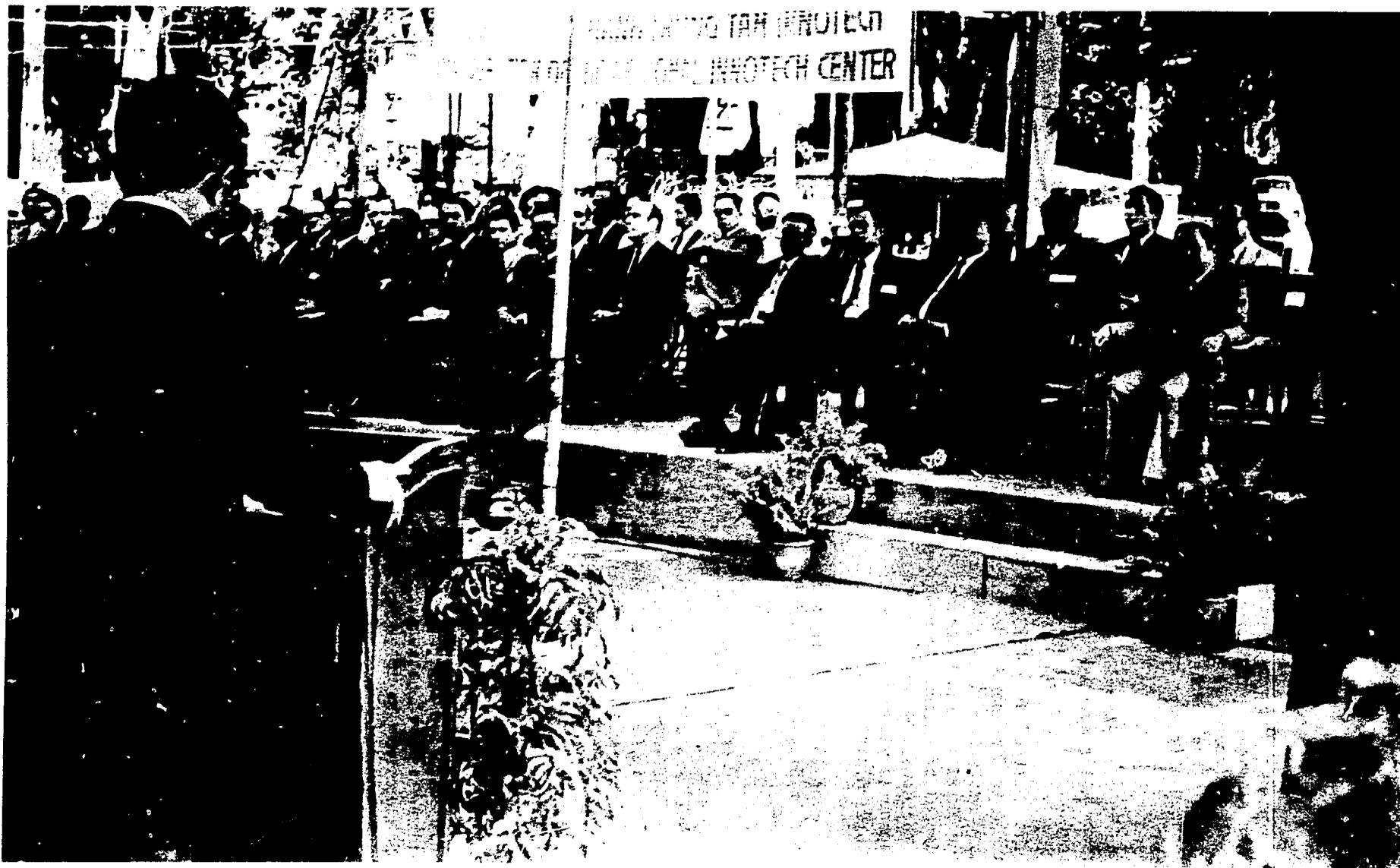
BEGINNINGS IN SAIGON (July-December 1973)

INNOTECH started in Saigon in July, 1973. The Government of Vietnam set aside the top two floors of a new building for INNOTECH to occupy as its interim home at No. 35 Le Thanh Ton Street. The space reserved for the Center was approximately 1,500 square meters and was sufficient to accommodate 50 staff members and 48 program participants.

The *Eighth Meeting of the Governing Board* was held in Saigon in August, 1973. At the opening, a Ribbon-Cutting Ceremony inaugurating the Center was officiated at by H.E. Ngo Khac Tinh, Minister of Culture, Education and Youth, Vietnam, representing H.E. The Prime Minister of Vietnam. The Minister also presented Dr. Robert Jacobs, Regional Education Advisor, with the "First Class Medal of Culture and Education," in recognition of the valuable services he had rendered to the SEAMEO countries in general, and to INNOTECH in particular.

At its meeting, the Board deliberated on the question of the Center's readiness to enter its permanent phase of operation and adopted the following recommendations:

1. that INNOTECH be given an extension of interim operations for the fiscal year 1974-1975,
2. that a meeting be held in Bangkok between the Government of Vietnam, SEAMES, RED, and INNOTECH to discuss the extension of the INNOTECH interim phase.



*H. E. The Minister of Culture, Education and Youth,
inaugurated the Center in Saigon at Eighth Board
Meeting, August 21, 1973*

Following the Board's recommendations, a series of meetings was held involving the four parties mentioned above, and resulted in the agreement that the interim operation could be extended by six months instead of one year as suggested by the Governing Board. SEAMES submitted this matter to SEAMEC at its Ninth Conference in Bangkok and the Council approved the extension of INNOTECH's interim phase of operation by six months, (i.e. till December 31, 1974).

In September, 1973, a technical proposal was prepared to fund *Project IMPACT* for the Delivery of Mass Primary Education. IMPACT uses the concept of a community learning center, from which one qualified professional educator may be able to manage the educational experiences of some 200 students. Learning is achieved through a variety of non-teacher modes of learning, including self-instruction, small-group activities, use of community resource persons, peer and older-student tutoring, and parental guidance and monitoring. By the end of 1973, two sites were selected (four villages in Indonesia and five villages in the Philippines) and Project Directors and Associates were recruited at each field site. These four persons joined with the INNOTECH, Saigon, staff to prepare a Research Planning Document in December. The International Development Research Centre (IDRC) of Canada is funding Project IMPACT.

An alternative approach for the delivery of mass primary education was begun in Saigon under the title of *Project RIT* (Reduced Instructional Time). Its purposes are two.

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 above instructional strategies, develop feasible schedules which will permit teachers and school facilities to include 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.

The *Fifth Three-Month Program* was conducted from October 1 to December 22, 1973, with 43 Participants from SEAMEO Member Countries (five from Malaysia, two from Singapore, and six from the other countries).

A *Regional Seminar* on "Uses of Community Resources in Providing Low Cost Primary Education" was held in Saigon in November, 1973, with two participants from each SEAMEO Member Country and five guest speakers from outside the region. Just as the earlier Seminar on the Delivery of Mass Primary Education had been used in developing models leading to Project IMPACT, the November Seminar was utilized in

refining the model, particularly in giving added focus to the variety of community resources available to aid in the educational activities of Project IMPACT.

Staffing at the close of 1973 included the Director, 17 persons on the administrative staff, 15 regional specialists, 3 external advisors, and 2 volunteers from the Canadian University Service Overseas.

The history of INNOTECH ...from its formative years of 1966-1969 to its beginnings in Saigon in 1973 ... is a history of development and of regional cooperation. The concept of INNOTECH grew out of regional needs and concerns, and the Center has become a reality through the cooperative efforts of all SEAMEO member countries.

Some indications of the developments that have taken place can be found on the next several pages: first, in the numbers of participants who have taken part in the Center's training programs, and second, in the publications of the Center during this period.

Number of Participants in Training Programs (1970-1973)

Countries	Three-Month Prog	Interns-Prog.	Total/Country
Indonesia	18	5	23
Khmer Republic	18	4	22
Laos	18	5	23
Malaysia	17	5	22
Philippines	18	5	23
Singapore	14	6	20
Thailand	18	5	23
Vietnam	17	5	22
TOTAL	138	40	178

INNOTECH PUBLICATIONS (1969-1973)

NEWSLETTERS

Volume 1, No.1-8

Volume 2, No.1-3

(Note: 12 additional issues were prepared in 1974).

TECHNICAL REPORTS

February 1971	INNOTECH Concepts
February 1971	First Regional Conference on Educational Innovation and Technology
August 1972	Selected Educational Projects in SEAMEO Countries - (INNOTECH/PC-1/7)
August 1972	Critical Classroom Behaviors of Teachers (INNOTECH/PA1/Vol. I/1/7)
August 1972	Teacher Training in Critical Classroom Behaviors (INNOTECH/PA1/Vol. II/1/7)
September 1972	Primary School Readiness Testing: Feasibility Study (INNOTECH/PP - 1/7)
October 1972	Regional Practicum on Alternatives in Education (INNOTECH/RP/7)
December 1972	Self-Help Barrio High Schools
March 1973	Delivery of Mass Primary Education (INNOTECH/RS - 73/7)
April 1973	Educational Technology INNOTECH/AED Seminar (INNOTECH/ALS/7)
May 1973	TECH Programme - Self Instructional Programme for English Comprehension. (INNOTECH/TR-FR/73)
June 1973	Programmed Teaching. Effective Teaching by "Unqualified Teachers" - (INNOTECH/PT(E) - FR/73)
September 1973	Primary School Objectives, Volume I. Comparison among SEAMEO Countries. Saigon: INNOTECH, September 1973 (INNOTECH/PE-FR/Vol. 1.73)
	Primary School Objectives, Volume II. Representative Examples from SEAMEO Countries. Saigon: INNOTECH, September 1973 (INNOTECH/PE-FR/Vol. 2/73)

November 1973 Use of Community Resources for Providing
Low-Cost Primary Education, (INNOTECH/RS-73)

December 1973 Life-Skills Objectives: A Tryout.
(INNOTECH/LS-SR-73)

GOVERNING BOARD REPORTS

October 1969 First Meeting of the INNOTECH Interim Govern-
ing Board. Final Report - INNOTECH/IBD/7

January 1970 Second Meeting of the INNOTECH Interim Govern-
ing Board. Final Report - INNOTECH/2BD/7

November 1970 Third Meeting of the INNOTECH Interim Govern-
ing Board. Final Report - INNOTECH/3BD/7

July 1971 Fourth Meeting of the INNOTECH Governing
Board - Final Report INNOTECH/4BD/7

November 1971 Fifth Meeting of the INNOTECH Governing
Board. Final Report

May 1972 Sixth Meeting of the INNOTECH Governing
Board - Final Report INNOTECH/6BD/7

November 1972 Seventh Meeting of the INNOTECH Governing
Board - Final Report - INNOTECH/7BD/72

August 1973 Eight Meeting of the INNOTECH Governing
Board - Final Report - INNOTECH/8BD/73

PLANNING DOCUMENTS

January 1970 Proposed Development Plan - INNOTECH/SYP/MCS

April 1973 Research Planning Document: Setting Priorities
for INNOTECH Research on the Delivery of Mass
Primary Education.

ANNUAL REPORT
1974

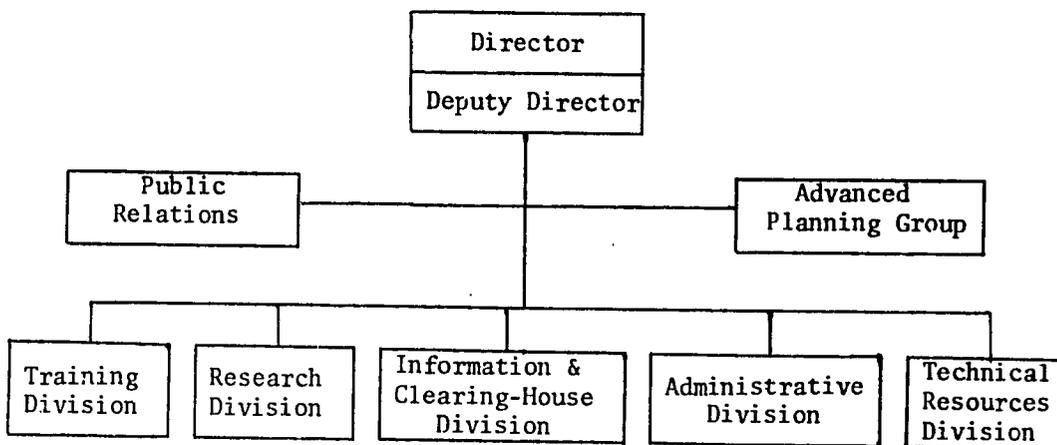
ADMINISTRATION

- Organization and Staffing
- Physical Facilities
- Finances
- Meetings of INNOTECH's
Governing Board

ORGANIZATION AND STAFFING

Organization

As shown below, INNOTECH is organized into five Divisions plus two groups, Public Relations and Advanced Planning, directly responsible to the Office of the Director.



Staffing

Preliminary note of appreciation: In February, Mr. Ly Chanh Duc ended a long and fruitful service to the Center which began as Interim Project Director in 1969 and continued as Center Director throughout the development of INNOTECH. All who have been associated with recognize his valuable contributions to the Center's growth. Mr. Pham Van Cung has assumed the Directorship.

The INNOTECH staff in 1974 has included 75 persons

Office of the Director

Mr. Pham Van Cung, Director (Vietnam)
Dr. Winarno Surakhmad, Deputy Director (Indonesia)
Secretaries (2)

Public Relations

Mr. Hoang Thach Thiet, Public Relations/Publications Officer (Vietnam)

Advanced Planning Group

Mr. Ouy Vanthon, Senior Specialist (Khmer)
Mr. M. Domin Taboer, Associate Specialist (Indonesia)
Miss Nguyen Thi Thuong, Senior Specialist (Vietnam)
Clerk/Typists (2)

Training Division

Mr. Orlando Claveria, Senior Specialist (Philippines)¹
Mr. By Boeun, Associate Specialist (Khmer)
Mrs. Plookpleum Sriprasert, Associate Specialist (Thailand)
Mr. Orlando Benozza, Associate Specialist (Philippines)
Clerk/Typists (2)

Research Division

Dr. A.O.B. Situmorang, Senior Specialist (Indonesia)
Dr. F.C. Gloria, Senior Specialist (Philippines)²
Dr. Nguyen Van Thuy, Senior Specialist (Vietnam)²
Mrs. Sunan Patachome, Associate Specialist (Thailand)²
Mrs. Do Ngoc Lien, Associate Specialist (Vietnam)²
Mrs. Nguyen Ngoc Chau, Associate Specialist (Vietnam)
Miss Nuanchan Potar, Associate Specialist (Thailand)
Miss Joan Frances Tuck, Associate Specialist (CUSO - Canada)
Mrs. Dao Kim Phung, Associate Specialist (Vietnam)
Mr. Tran Huu Long, Associate Specialist (Vietnam)
Miss Tran Thi Khue, Associate Specialist (Vietnam)
Mr. Le Thanh Viet, Associate Specialist (Vietnam)
Mrs. Bibiana Corcoro, Associate Specialist (Philippines)
Translators (3)
Clerk Typists (3)

(Field Site - Philippines)

Dr. Concessa Milan Baduel, Project Director, replaced by Mr. Orlando Claveria in July 1974
Dr. Rosetta Mante, Project Associate

(Field Site - Indonesia)

Mr. Boorhan Respati, Project Director
Mr. Saleh Muntasir, Project Associate

1. Assigned in June as Director, Project IMPACT, Philippines
2. Terminated

Information and Clearing House Division

Mr. Frank C. Gillis, Editor (CUSO - Canada)¹
Mr. Hoang Thach Thiet, Public Relations/Publication Officer (Vietnam)
Mrs. Valerie Saarela, Editor (CUSO - Canada)
Miss Le Thu Nguyet, Librarian (Vietnam)
Clerk/Typists (2)

Administrative Division

Mrs. Bui Thi Lam, Acting Head of Administrative Division
Mr. Le The Khoi, Office Manager
Mr. Truong Van Khang, Assistant Personnel Officer
Mr. Nguyen Giac, General Maintenance Supervisor
Mr. Nguyen Ngoc Dan, Printer

Mrs. Tran Ngo Thi Loc, Finance Officer
Miss Huynh Thi Kinh, Bookkeeper
Mrs. Tran Thi Yen, Bookkeeper
Clerk/Typists (6)
Receptionist (1)
Office Attendants (2)
Drivers (4)
Maintenance Man (1)
Watchmen (2)
Cleaners (2)

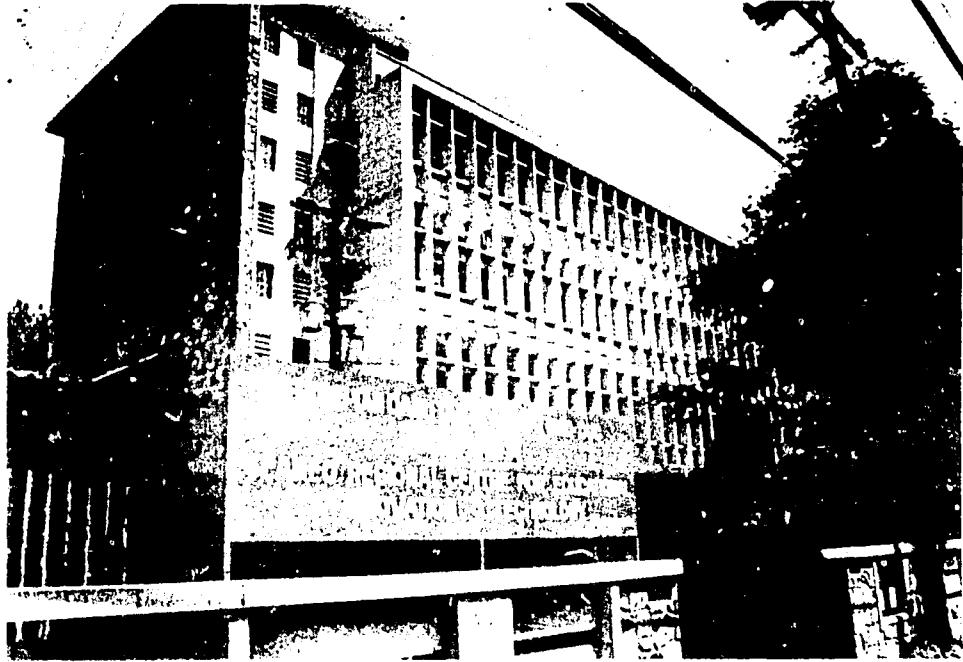
Technical Resources Division

Mr. Tran The Uy, AVA Specialist (Vietnam)
Mr. Hoang Quoc Lap, Graphic Artist (Vietnam)

Advisors

Daryl G. Nichols
Sheldon H. Sofer
Michael B. Nathenson 2
Secretary (1)

1. Replaced by Mrs. Saarela in August 1974.
2. Terminated



*INNOTECH's Interim Quarters -
35 Le Thanh Ton, Saigon*



*Site of INNOTECH's permanent home -
5 Dinh Tien Hoang, Saigon*

Staff Requirements for 1975:

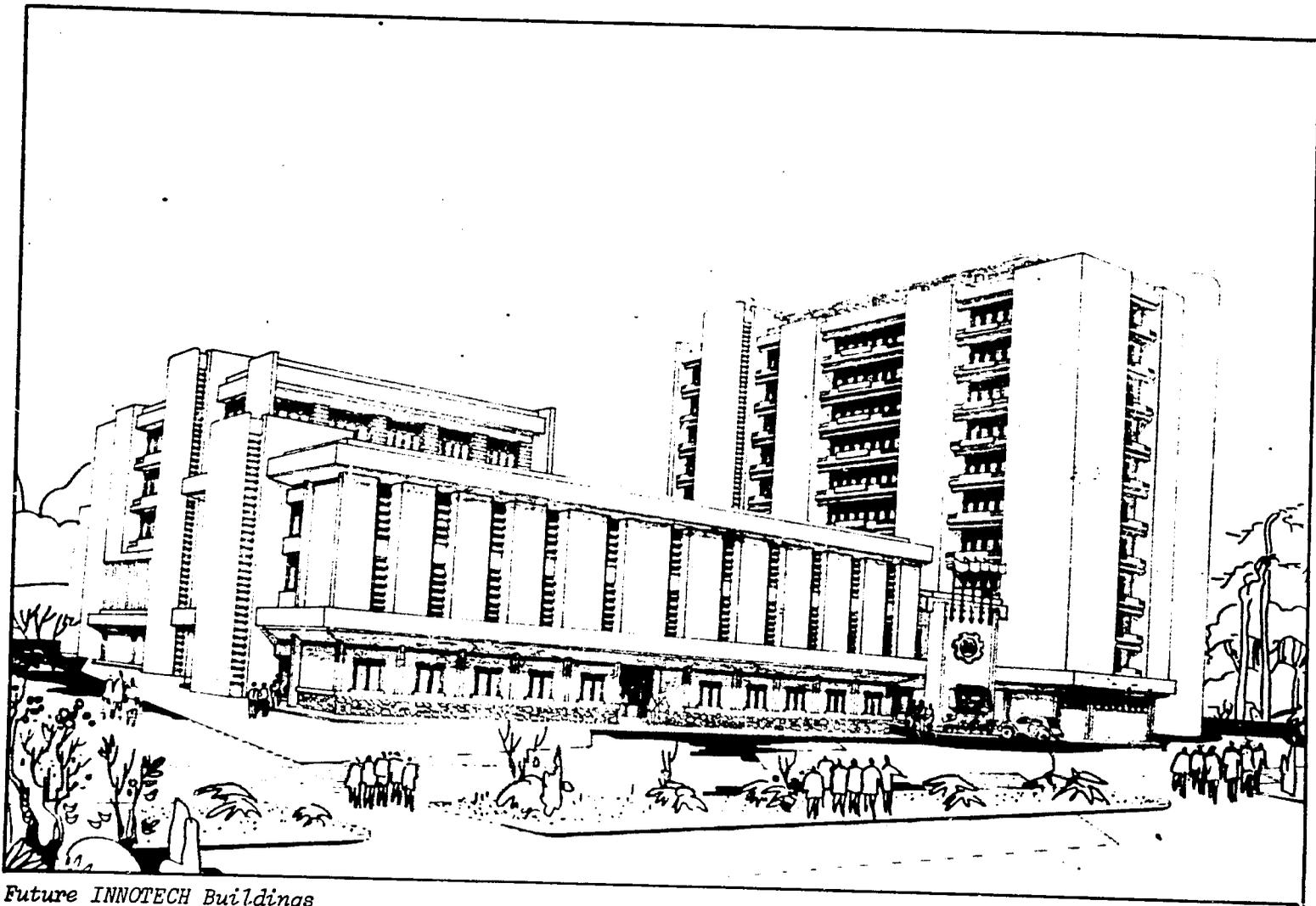
U n i t	On Board	Requirement	Recruitment
<i>Office of the Director</i>			
Director	1	1	0
Deputy Director	1	1	0
Secretaries	2	2	0
<i>Public Relations</i>			
P/R Officer	0	1	1
Clerk/Typists	0	1	1
<i>Advanced Planning Group</i>			
Senior Specialist	2	3	1
Associate Specialist	1	1	0
Clerk/Typists	2	2	0
<i>Training Division</i>			
Senior Specialist	0	1	1
Associate Specialist	3	3	0
Secretary	0	1	1
Clerk/Typists	2	2	0
<i>Research Division</i>			
Senior Specialist	1	4	3
Associate Specialist	8	8	0
Field Sites	4	4	0
Secretaries	0	1	1
Clerk/Typists	3	3	0
Translators	3	3	0
<i>Information & Clearinghouse Division</i>			
Publications Officer	1	1	0
Clearinghouse Officer	0	1	1
Librarian	1	1	0
Editor	1	1	0
Clerk/Typists	2	2	0

U n i t	On Board	Require-ment	Recruit-ment
<i>Administrative Division</i>			
Head of Division	1	1	0
Office Manager	1	1	0
Gen. Maint. Supervisor	1	1	0
Personnel Officer	0	1	1
Pers. Assist. Officer	1	1	0
Finance Officer	1	1	0
Secretary	0	1	1
Clerk Typist	5	6	1
Bookkeeper	2	2	0
Mimeo. Machine Operator	1	1	0
Mimeo. Machine Assistant Operator	2	2	0
Filing Clerk	1	1	0
Receptionist	0	1	1
Switchboard Operator	1	1	0
Office Attendant	2	2	0
Cleaner	2	4	2
Driver	4	6	2
Watchman	2	4	2
Maintenance Man	1	2	1
Gardener	0	1	1
<i>Technical Resources Division</i>			
AVA Specialist	1	1	0
Graphic Artist	1	2	1
<i>Advisory Services</i>			
Advisors	2	2	0
Secretary	1	1	0

PHYSICAL FACILITIES

The temporary site of the INNOTECH Center is at 35 Le Thanh Ton, Saigon. INNOTECH occupies approximately 1,500 square meters of office space in the top two stories of an office building provided by the Ministry of Culture, Education and Youth. There are no provisions on-site for either staff or participant housing. Non-Vietnamese staff are provided with a monthly housing allowance for the rental of apartments, and training participants are housed in a single large apartment building which is rented by the Center.

Renovations have begun on existing structures at the location of INNOTECH's permanent site, No. 5 Dinh Tien Hoang, Saigon. The total site area is 5,210 square meters, and initial occupancy will be in early 1975. By July, 1976, a new 6-story building will be completed to house offices, classrooms, and working space for training, research, and clearinghouse functions. The final structure in the building scheme will be a 10-story building, primarily for staff and participant housing. It will be completed by July 1977.



Future INNOTECH Buildings

FINANCE

Actual Expenditures FY 1973-1974 and Estimated Expenditures FY 1974-1975

US Dollars

Budget Item	Actual 1973-1974	Estimated 1974-1975
<i>710 - Capital Funds</i>		
1 - Building		191,000
2 - Furniture & Equipment	13,176	69,000
3 - Transportation Equipment	2,593	-
4 - Library Materials	3,245	3,000
5 - Leasehold Improvements	16,377	59,800
6 - Miscellaneous		2,200
Sub Totals	35,391	325,000
<i>720 - Operating Funds</i>		
10 - Salaries & Wages	118,208	186,158
11 - Staff Benefits	6,879	14,500
12 - Travel & Transportation	10,661	35,600
13 - Operating supplies	13,621	19,100
14 - Communications	2,724	12,200
15 - Utilities	8,598	20,200
16 - Seminars & Conferences	2,311	4,000
17 - Repairs & Maintenance	4,761	14,000
18 - Fund-raising & Pub. Relations	716	3,000
19 - Representations & Entertainment	650	2,000
20 - Professional Services	1,678	5,000
21 - Clearing House & Prof. Publication	14,364	24,000
Research & Development Studies	2,230	
22 - External Advisors		95,080
23 - SEAMEO Delivery System Study	31,657	290,720
28 - Miscellaneous	893	7,370
Sub Totals	219,951	737,928
<i>730 - Special Funds</i>		
31 - Training & Research Schol.	113,848	92,660
33 - Governing Board Meetings	14,829	9,000
34 - Seminars & Conferences	10,525	14,260
35 - Personnel Exchange		900
Sub Totals	139,202	116,820
Grand Total	394,544	1,179,748



*Ninth Governing Board Meeting
adopts Five-Year Plan in principle*

GOVERNING BOARD MEETINGS

The Ninth Governing Board Meeting and the Tenth Governing Board Meeting were held in 1974. Those meetings discussed the ending of INNOTECH's Interim Phase and the strategy for INNOTECH's Permanent Phase. The main function of the two meetings was to build the foundation for the permanent phase and to create the basic document that will enable the Center to operate effectively and to translate its concepts into programs and activities.

The Ninth Governing Board Meeting*

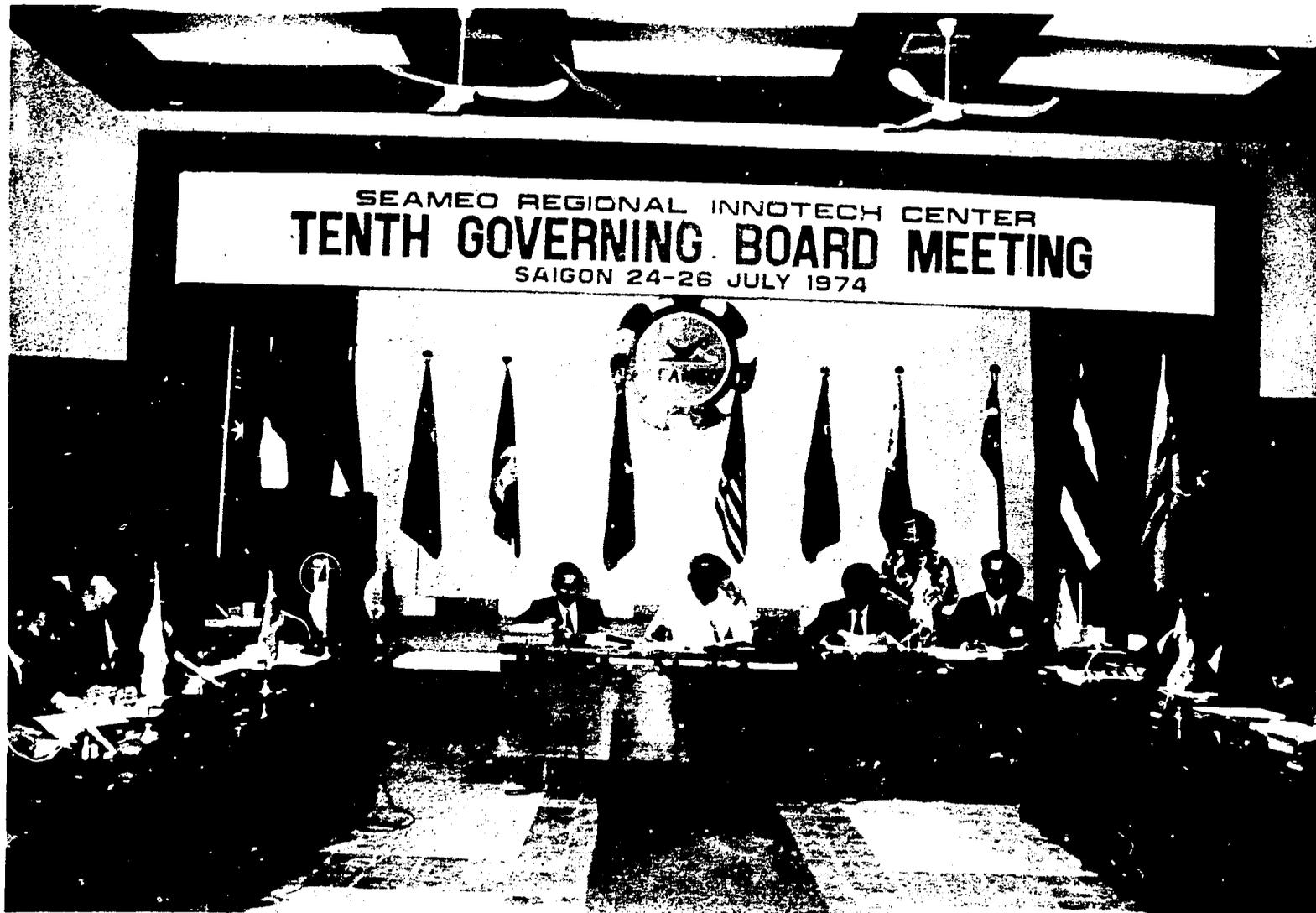
The Ninth Meeting of the Governing Board of the SEAMEO Regional Center for Educational Innovation and Technology (INNOTECH) was held in Yogyakarta, Indonesia, March 11-13, 1974. The meeting was opened by His excellency Syarif Thayeb, the Minister of Education and Culture of the Republic of Indonesia.

Participants in the meeting were the Board Members of the eight SEAMEO countries and their advisors. Also present were representatives of France and Australia (associate members of SEAMEO) as well as consultants and observers from within and outside the region.

The Board reviewed with satisfaction the progress of the Center's programs in training, research, and many other activities conducted since the last Governing Board Meeting in Saigon in August, 1973. The Board approved unanimously the nomination of Mr. Pham Van Cung (Vietnam) as Director of INNOTECH. Both the Chairman of the Board (Dr. Albarracin of the Philippines) and the member from Indonesia (Drs. Yusufhadi) referred to the enthusiasm of their respective countries towards Project IMPACT (Instructional Management by Parents, Community and Teachers), while the Board as a whole expressed their support of the Project.

The Board also considered the Center's proposed Five-Year Development Plan which included such items as the Center's proposed new nine-month training program, special short courses dealing with specialized topics of relevance to the region, and new developmental workshops which will allow researchers and educators from the region to join together for up to six weeks in an effort to solve specific and practical educational problems in Southeast Asia.

* Board Meeting Attendees are listed in the Appendix.



Tenth Governing Board Meeting reviews and approves basic documents of INNOTECH

The Governing Board adopted the Five-Year Plan in principle with the stipulation that all aspects of the planning document be made explicit - e.g. the integration of research and training, qualifications of participants - for the next Governing Board Meeting to be held on July 24-26, 1974 in Saigon.

Much attention also was given by the Board to financial and administrative matters. The 1974-1975 budget was approved in principle with the upward revision of salaries, wages and staff benefits pending the adjustments of the salary scale and the adoption of the staff rules (which was to be reviewed in July, 1974).

The date of the Tenth Board Meeting was tentatively decided to be in late July 1974, in Saigon.

Following the meeting, a trip was organized to Solo and an IMPACT Community Learning Center. The group was most impressed by the cordial reception given them by the officials of the area, and by the atmosphere of enthusiasm and dedication that surrounded the project. The children and the teachers were especially enthusiastic. It was generally agreed by the members of the visiting group that Project PAMONG (the Indonesian equivalent acronym for IMPACT) was in very good hands, and that the dedication of all those involved held great promise for the future of IMPACT.

The Tenth Governing Board Meeting*

The Tenth Meeting of the Governing Board of the SEAMEO Regional Center for Educational Innovation and Technology (INNOTECH) was held in Saigon on July 24-26, 1974.

All activities were held at the Ministry of Education's Conference Hall at 35 Le Thanh Ton, Saigon. The meeting was declared open by His Excellency Ngo Khac Tinh, Minister of Culture, Education and Youth.

In his opening address, the Minister stressed the importance of regionalism as manifested by "the positive response of the SEAMEO countries to the programs and activities of INNOTECH". He also stressed "that traditional methods cannot overcome our ever-mounting problems in the field of education ... and that innovative ways have to be sought" to solve these problems.

* Board Meeting attendees are listed in the Appendix

In this regard, the Minister said that "INNOTECH should pursue... revolutionary and pragmatic approaches to optimizing educational resources in order that educational objectives may be achieved." The Minister closed his address by pledging his full support to INNOTECH and to regional cooperation.

Earlier, in his opening statement, the Deputy Director of SEAMES, Dr. Chetana Nagavajara, stated that "the very fact that SEAMEC, at its last Conference in Bangkok, (agreed) that the Five-Year Plan could be approved by the Council through a referendum is...a sign of trust and confidence in the INNOTECH Staff and the Governing Board."

During their three-day stay in Saigon, the Board visited the future site of INNOTECH's permanent home on Dinh Tien Hoang Street. All the Board Members were visibly impressed by the new location.

Following a review of such documents as the Enabling Instrument and Staff Rules, the Board turned to the main item on the agenda--the Center's proposed Five-Year Development Plan which the Board had first reviewed and approved in principle in Yogyakarta (March, 1974).

The revised plan included major changes in the Budget and Funding Scheme and the addition of several new sections: Objectives and Functions ; Structure- Projected Five-Year Impact; and detailed descriptions of the INNOTECH Training Program, of Project IMPACT and of Project RIT. The Board approved the plan as a whole, thereby laying the foundation for the Center's permanent phase of operation which will begin in January 1975. The next meeting will be held in Saigon, in March, 1975.

The Chairman of the Board, Dr. Narciso Albarracin closed INNOTECH's Tenth Governing Board Meeting with the following words: "Into these documents went the best in our minds, hearts and conscience...we have woven into these administrative fabrics the concept of justice and fair play in the conviction that only houses built on such a rock can stand the ravages of time and the frailties of man."

PROGRAMS AND ACTIVITIES

- Training
- Research
- Information and Clearinghouse
- Special Programs and Services

TRAINING

During 1974, two different courses were conducted by INNOTECH. The first was the Center's continuing Three-Month Program on Educational Planning and Decision-Making. The second was a two-week course on the preparation of self-instructional materials.

The three-month program is designed to be held three times each year, while the two-week course is to be held twice each year on special topics of relevance to the region. (Note that the topic of self-instructional material preparation was only the first special topic; other topics will be covered in subsequent two-week courses.)

THREE-MONTH PROGRAM

Educational planning and decision-making remained the focus of this continuing series, although revisions to both content and learning process are being made on a regular programmed basis. Although three courses each year is the norm, only two were held in 1974 to permit a more complete revision of the program for 1975.

The two programs conducted this year represent the 6th and the 7th three-month courses. A total of 91 key educators from the region participated in these two programs:*

Number of Participants

Country	Program Number		Total
	6th	7th	
Indonesia	4	6	10
Khmer Republic	6	6	12
Laos	6	6	12
Malaysia	6	5	11
Philippines	6	6	12
Singapore	4	6	10
Thailand	6	6	12
Vietnam	6	6	12
Totals	44	47	91

* A list of participants is given in the Appendix.

SEASIDE REGIONAL INNOTECH CENTER
GRADUATE AWARDS CEREMONY - SIXTY THREE-MONTH TRAINING PROGRAM
SATURDAY 4 APRIL 1974



*INNOTECH Sixth Training Course
participants receive certificates*

Description of the Three-Month Program

The *general purpose* of the three-month program is to provide key educators of the region with skills and knowledges necessary for educational planning, decision-making, and application of realistic change strategies. More specifically, after completion of the Three-Month Program each participant should be able to:

- ... construct an educational planning systems model for appropriate use in the Region's educational systems;
- ... utilize the systems approach to decision-making in educational planning;
- ... apply innovative change strategies in solving regional, national, and on-the-job educational problems.

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.

- A. Preview
 - 1. Overview of Module
 - 2. Rationale for Learning the material
- B. Objectives
- C. Core Instructional Activities
- D. Criterion Post-Test
- E. Enrichment Seminar

Core Instructional Activities are designed for individualized learning. They include a broad range of modern learning tools and techniques to accommodate the differences among the participants (e.g., programmed reading, self-instructional mathematics programing, slide-tape programmed presentations, etc.). We thereby attempt to ensure 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 from their usual use 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 from the various modular learning activities, not from lectures.



*One of the activities of the
Seventh Three-Month Training Course*

In order to individualize learning even further, modules have been translated into the two languages of French and Thai, for those participants who have some difficulty with English.

Each participant is assigned to one of four 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.

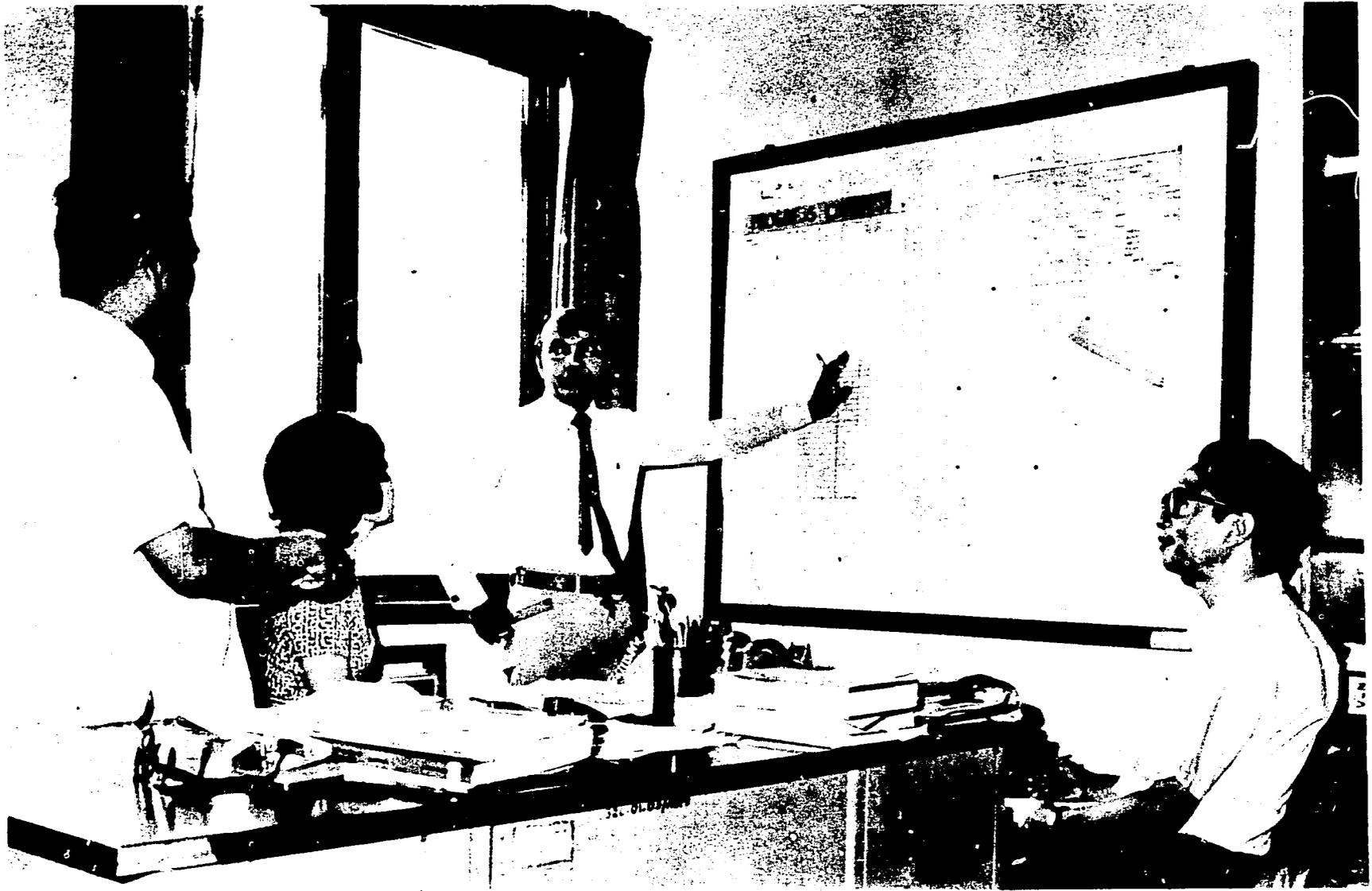
When a participant feels he has mastered the objective(s) of a given module, he takes a criterion post-test which is available in both French, and Thai. Participants may take Post-Tests in the language of their choice.

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 others experiencing similar problems. Participants then "re-learn" the concept(s) on their own and, when ready, re-take 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.

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

In addition to mastering the 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. Because feedback is anonymous,



*Training Staff discusses revision
of Three-Month Training Program*

participants respond freely and honestly. Based on feedback from participants, on their Post-Test performance and on three debriefings held at various points in the course, the present program is constantly being evaluated, revised, and improved for the next group of participants.

The following pages contain a brief description of the modules which participants mastered in the three-month program in 1974. It is followed by a list of "electives" which participants are encouraged to undertake if time permits.

MODULE	TITLE	BRIEF DESCRIPTION
1	Educational Development in Southeast Asia	A discussion of why Asia's educational problems are self-imposed, why traditional assumptions about Asian education need to be questioned.
2	The Systems Approach to Education	An article which clearly illustrates the sequence and relationship between the various steps in the systems approach.
3	Application of a Systems Approach to Educational Improvement	A description of an alternative interpretation of the systems approach with concrete examples provided.
4	BPP Indonesian Model	A description of the systems approach to educational planning as developed by the BPP in Indonesia.

MODULE	TITLE	BRIEF DESCRIPTION
5	Model Building Seminar	Small-group workshops on the design and development of an INNOTECH Systems Approach Representative Model
6	Formulating Educational Problems	A self-instructional program on how to formulate educational problems effectively
7	Seminar on Writing On-the-job Problem Statements	Oral presentation and practice in writing on-the-job problem statements
8	Goal Analysis	A procedure for distinguishing between statements that describe performances and statements that describe abstractions.
9	Formulating Change Objectives	A self-instructional program on how to formulate change objectives from statements of educational problems.
10	Deriving Training Objectives	A self-instructional slide/tape presentation on how to derive and state training objectives in terms of observable behavior (three units of instruction).
11	Measuring the Accomplishment of Objectives	A self-instructional sequence which stresses the importance of stating educational objectives so that their achievement can be measured.

MODULE	TITLE	BRIEF DESCRIPTION
12	Designing Criterion Tests	A self-instructional slide/tape presentation on how to design valid criterion test items (two units of instruction).
13	Seminar on Writing On-the-Job Objectives	Oral presentations, and practice in formulating objectives relevant to participants' jobs in their home countries.
14	Setting Priorities Among Educational Objectives.	A self-instructional program which examines a representative technique for systematically setting priorities among educational objectives - The Value Contribution (VC) Method.
15	Identifying Resources and Constraints in Southeast Asia	A program which stresses the importance of evaluating innovative ideas in terms of six broad categories of resources and constraints.
16	Innovations and the Delivery of Mass Primary Education	A description of the IMPACT concept as an alternative system for the delivery of mass primary education in SEAMEO countries.
17	Programed Teaching: Effective Teaching by "Unqualified Teachers"	A research paper which describes an innovative method for using community members to teach beginning reading in Malaysia.

MODULE	TITLE	BRIEF DESCRIPTION
18	The Open University: Every Man's Classroom	An article describing a most unusual university in England which has no students on its campus, but is currently producing graduates at approximately 20% of the cost of graduates from a traditional university.
19	Instructional Media	A self-instructional slide/ script presentation which examines the creative use of media in an instructional system.
20	The Effectiveness of Instructional Radio	A research review and proposal which examines the important role that instructional radio can potentially play in developing countries.
21	Project Plan: A System of Individualized Instruction	An article which describes an innovative concept in individualized instruction in which children assume responsibility for the planning and management of their own learning.
22	A Personalized System of Instruction: An Alternative to Lecturing	A speech which describes an innovative system of self-paced, mastery-oriented instruction that can readily be adapted to institutions of highest learning in Southeast Asia.

MODULE	TITLE	BRIEF DESCRIPTION
23	Criteria for Evaluation of Tryout Projects	The provision of a set of basic criteria to use in evaluating a tryout project.
24	The Purpose of Evaluation and the Role of the Evaluator	A discussion of the various reasons for conducting an evaluation and the many roles that an evaluator must play in the assessment process.
25	Validation Procedures	A self-instructional slide/tape presentation on how to analyze the results of a given program and make necessary revisions.
26	The Individual as an Educational Innovator and Change Agent	A self-instructional program on how participants can be successful change-agents within their own countries.
27	The Critical Path Method	The module provides self instruction on the use of the Critical Path Method (CPM) in project management.

List of Electives

- 1-A. P.H. Coombs: The World Educational Crisis: A Systems Analysis (Chapters II and III).
- 1-B. Dr. Ivan Illich: "The Alternative to Schooling" Alternatives in Education - A Regional Practicum (Innotech).
- 1-C. PROGRAMMED TEACHING - Effective Teaching by "Unqualified Teachers" (Final Report of study on Programmed Teaching).
- 2-A. Dr. W. K. Sim - "INNOTECH Concepts" (Essay).
- 2-B. B.H. Banathy: Instructional Systems Chapters I & II.
- 2-C. C. W. Churchman: The Systems Approach Chapters II, III and X.
- 2-D. David Barbes and William L. Motzel "A Systems Approach to the Design of Instructional Systems" (Tape/Script/Workbook).
- 3-A. D. J. Klaus: Instructional Innovation and Individualization Vol. I and II.
- 3-B. G. Offiesh: "The Systems Approach".
- 3-C. F. A. Schwarz: "The Analysis of Educational Problems by a Systems Approach".
- 3-D. T. Snyder: "Special Matinee Feature_ Attack of the Systems People".
- 4-A. Corrigan and Kaufman: "Why Systems Engineering" (Programmed Test).
- 4-B. Antoinette Ryan: "Systems Techniques for Programs of Counselling and Counselling Education".
- 4-C. W. R. Bush: "Systems Analysis: A Method for Logical Decision Making".
- 4-D. "The Systems Approach to Problem Solving" (Test).

- 7-A. (Problem Statements from the SEAMEO publication "Regional Educational Planning Seminar - Final Report, April, 1971").
- 7-B. "Outstanding Problems in Asiland".
- 8-A. Robert Mager: Goal Analysis
Part III: Chapters 4, 5, 6 and 7 pp. 39-85.
Part IV : Chapters 8, 9 and 10 pp. 89-119.
- 9-A. Formulation of change objectives from list of problems in Module Elective 7.
- 10-A. Mager: Preparing Instructional Objectives.
- 10-B. Kibler, Barker, Miles: Behavioral Objectives and Instruction.
- 10-C. H.H. McAshen: Writing Behavioral Objectives.
- 10-D. Taped Behavioral Objectives Debate produced by James Popham.
- 10-E. Self-instructional Tape/Script/Workbook Program on Preparing Instructional Objectives, designed by the Center for Educational Technology, Catholic University of America)
- 10-F. Filmstrip-tape program entitled "Educational Objectives" by James Popham.
- 12-A. W. James Popham: Evaluating Instruction
- 12-B. James Popham: Criterion Referenced Measurement.
- 12-C. W. James Popham: "Modern Measurements Methods" (Filmstrip/Tape program).
- 14-A. Philip Coombs: What is Educational Planning
- 14-B. Philip Coombs: The World Educational Crisis (Chapters IV-VII).
- 14-C. Robert F. Alioto & J. A. Jumghen: How to Develop Program Objectives, Establish Priorities and Evaluate Achievement. (This is a selection which is Chapter 4 Part I of Operational PPBS for Education: A Practical Approach to Effective Decision Making.

- 15-A. C. E. Beeby: The Quality of Education in Developing Countries (Chapters II and VII)
- 16-A. Robert M. Gagne: "Educational Technology and the Learning Process".

Revisions of the Three-Month Program

The three-month course cannot remain static; it must be responsive to new developments and needs. It also must benefit from the experience of previous participants. Although the Center has planned a 15 percent change in both content and procedure between courses, no program was conducted between July and December so that a more complete revision could be made.

One of the changes that has been made is to revise the modules to insure that they are more sequential--that a clear direction from one to the next is evident to all participants. A second change has been to simplify the language used. Too often, in the past, the modules have been excessively difficult... not because of the concepts to be learned... but because of the language used.

The major change, however, has been eliminating the modular post-tests and replacing them with "práctica". It has been the opinion of both staff and participants that the post-tests, which were given in a secure post-test room, (1) were too secretive, (2) relied too much on memory, and (3) did not adequately measure the applied skills in educational planning which are intended as the primary outcomes of the course. Each module now has been changed to be followed by a post-module practicum which gives each participant the opportunity to apply what he or she has learned to realistic educational problems. Participants will be encouraged to discuss each practicum to refer to the modules, and to utilize the library or other sources of information. Secrecy and memorization are eliminated, and it is expected that the more realistic exercises provided by the practica will develop a greater ability to apply the systems approach than was previously possible.

The number of participants in each course has now been reduced from 48 to 32 (4 from each member country) to allow an opportunity for more interaction between participants and the training staff.

The new course now has 31 core modules in English, French and Thai. The training staff is hopeful that the new participants, when they begin their training on January 6, 1975, will be as enthusiastic as the staff.

TWO WEEK SHORT COURSE*

The first of the new series of short courses on special topics was held in Saigon in November, 1974. Henceforth, short courses will be conducted twice each year.

The topic of the November course was "Self-Instructional Management Programs for Learning Efficiency," and the purpose was to provide the 26 participants**with the basic knowledge and skills needed to write and manage self-instructional programs.

Content of the course included (1) application of learning principles, (2) demonstration of concept learning, (3) elements and techniques of programing, (4) linear and branching programing, and (5) management of self-instruction.

In the short time available to the workshop, there was no attempt to develop programing experts; participants, however, did develop adequate basic skills in some of the techniques of programing. It was the intention that participants, on their return home, could build upon these basic skills to gain added experience and skills.

A number of participants indicated a desire to conduct the course in their home countries. Revision of materials has now been completed and will be sent to participants early next year to support their desire to conduct the course. A follow-up questionnaire also will be sent to all participants to determine whether they have been able to utilize what they learned at INNOTECH on their own jobs.



*Task Force on Two-Week Course
meets to discuss progress*

PLANNING FOR A NINE-MONTH COURSE ON APPLIED RESEARCH

Initial plans have been made for the development of the 9-month applied research course which will begin in September, 1975. The course will be conducted in four phases: (a) participation in the three-month course on educational planning (which the staff considers to be a pre-requisite for creative research programs), (b) a two-month research planning phase, conducted primarily with tutorials with research advisors, (c) conduct of research in their home countries, monitored by research advisors, and (d) return to INNOTECH for analysis, critique and report preparation.

* We are grateful to Mr. Harris Shettel of the American Institutes for Research for his expert assistance in the conduct of the short course.

** A list of participants is given in the Appendix.



Small-group discussion with participants and staff adds variety to Two-Week Course

RESEARCH

The INNOTECH research staff is deeply committed to two projects, both of whose aim is to develop systems for the *delivery of mass primary education*. The need for such systems was clearly voiced by the SEAMEO Technical Working Group (July-August,1972) by the priority which it gave to mass primary education in its recommendations for Educational Development for the 1970's.

The *need* is clear: approximately one-half of the children in this Region are unable to complete a primary education. The *problem* of providing for mass primary education is magnified by a lack of funds, because educational budgets already are proportionately large compared to other expenditures. The *solution* cannot be the simple expansion of the traditional education system, because funds are not available for more teachers, classrooms, and books; the solution will have to come through some alternative approach to the ways we provide education to our children. We are hopeful that the two INNOTECH projects, IMPACT and RIT, can lead to workable alternatives that will enable all children in the SEAMEO Region to have the opportunity for quality primary education.

PROJECT IMPACT*

The work IMPACT is an acronym for Instructional Management by Parents, Community and Teachers. In Indonesia the acronym is Project PAMONG which is an acronym for Pendidikan Anak Oleh Masyarakat Orang Tua Dan Guru (Primary education by community, parents and teachers).

The above two acronyms are fairly accurate descriptions of the IMPACT system which uses a community learning center concept enabling one professionally trained educator to manage the educational experiences of a large number of children (up to 200) with the assistance of community resource persons, parents and older-student tutors.

*The Center is grateful to the International Development Research Centre of Canada for providing the major portion of external funding for the project.



*IMPACT SOLO (PROYEK PAMONG, Indonesia) site
welcomed INNOTECH Governing Board members*

The rationale behind IMPACT is as follows:

- ... Approximately one-half of children in Southeast Asia do not complete 4-5 years of primary education.
- ... This condition is most prevalent in rural communities in which some 70% of the population live
- ... 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 means 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 (or at least "non-teacher") 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 for exit and reentry into the educational system at any time (as one means to avoid dropouts and wastage).

IMPACT has now been underway for one year, and it will take an additional 3-4 years of development before the system will be operational at all levels of primary education. The description which follows, therefore, is of the IMPACT system as it may have evolved at the end of this lengthy development period. The reader should understand, however, that we should expect many changes to occur in the concept below as more experience is gained:

1. An Instructional Supervisor represents the only institutionally trained professional educator. The traditional teacher's role is eliminated, and the Instructional Supervisor acts as a manager of instruction providing the needed direction and organization in the use of a variety of learning resources. One Instructional Supervisor should be able to manage the instruction of 200 primary students.
2. Community members with particular skills (carpentry, home-making, agriculture, health, religion, etc.) are enlisted to provide specialized instruction. They probably are unpaid volunteers who have been recruited by the Instructional Supervisor on the basis of a survey of community resources in relation to educational needs.
3. Other community members, who are primary school graduates, would be trained by the Instructional Supervisor to conduct specific courses, i.e. beginning reading, on a part-time basis. Their training would be very specific to the course they teach, and they probably would function as programmed teachers. Some could assist in the operation of the community learning centre, including record-keeping and evaluating student progress.
4. Older students would all be expected to assist younger students through tutorial 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 experienced 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 programs.
10. Printed modular materials would be reusable by other students as soon as they were completed by those who progress more rapidly.
11. There would be very few set class periods. Students would be able to drop out and re-enter 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 center.

The primary learning unit is a module. It is a learning package that can be undertaken by children with minimum or no involvement of a teacher. It can be self-instructional - and it usually is - directions to take advantage of the willingness of community resource persons to assist in special skill development, group activities, "buddy-system" learning in which children teach and test each other, etc.

No matter what form the learning experience takes, a module has the following characteristics:

- ... A readiness test to insure that a child has the prerequisite skills/knowledge; (The readiness test is self-scored with instructions on what a child should do to make himself ready - if the test shows that he is not.)
- ... An explanation of why the module is important/relevant;
- ... An overview of what is to be learned;
- ... A set of performance objectives;
- ... Instructions on how to learn from the module;

- ... Instructional materials interspersed with self-evaluation exercises and feedback;
- ... "Chunk" self-evaluation post tests, feedback and instructions for self-remediation;
- ... A review of what has been learned in the module.

In addition to the module proper, each module is accompanied by:

- ... A formal post-test to be administered by a teacher or tutor;
- ... Instructions to teacher or tutor on how to administer post-tests and remediate incorrect responses;
- ... Instructions to parents on how to monitor their children's learning activities;
- ... Instructions (as necessary) to community members assisting in skill training activities.

Modules are grouped into "blocks" of 4 or 5 related modules. The final module in each block is a review of all materials therein. A comprehensive block post-test is to be given at the learning center by the teacher (Instructional Supervisor) and will be her primary means to insure each child's progress.

Progress

Two rural village clusters are the sites for the development of Project IMPACT, one in Indonesia and one in the Philippines.

Solo, Indonesia: Four villages in Central Java near the town of Surakarta (Solo):

- (a) Kebak (b) Alastuwo (c) Bandjajarja and (d) Malangaten.
- There are seven schools in these four villages.

Naga, Cebu, Philippines: Five villages on the Island of Cebu near the town of Naga.

- (a) Naalad (b) Pangdan (c) Lutac (d) Balirong and (e) Uling.

Each site is staffed by professionals from within the country. In *Indonesia* the staff is made up of:

Project Director - Drs. Boorham Respati



IMPACT staff at Naga (Philippines)

- reviewing learning modules before they are reproduced to insure that they are compatible with the curriculum and with the abilities of village children;
- developing a knowledge of the IMPACT management system and their own roles in that system;
- assisting in reading ability testing and in the reading readiness program.

In Indonesia, a total of 14 school personnel (7 principals and 7 teachers) is intimately involved with the development of IMPACT. In the Philippines there is a total of 10 (5 principals and 5 teachers).

Both National and Local Steering Committees have been established in each country to give guidance and support to the Project. In *Indonesia*:

(National Steering Committee)

- a. The Chairman of the BPP (Educational Development Office) Department of Education and Culture
- b. The Governor of Central Java
- c. The Rector of IKIP (Teachers' Training College) Surakarta

(Local Steering Committees)

- 1. The village head
- 2. The school principal
- 3. The chairman of the Parent Teacher Association
- 4. Some key persons in the village.

In the *Philippines*:

(National Steering Committee)

- Dr. Narciso Albarracin, Undersecretary of the Department of Education and Culture, Chairman
- Dr. Liceria Brillantes Soriano, Director of Public Schools
- Dr. Bonifacio Sibayan, President of the Philippine Normal College
- Dr. Aurelio Tiro, Regional Education Director of the Central Visayas.

(Local Steering Committees)

1. The school principal, Chairman
2. The barrio captain, member
3. The president of the Parent Teacher Association, member.

In both countries, it was decided to begin development of the IMPACT system at the 4th grade level*. It is the first year in which the language of instruction is not the local dialect**. Unfortunately the level of reading ability in the language of instruction was generally not adequate at the experimental sites for children to benefit from 4th grade modules. Both staffs, therefore, developed remedial reading programs which were conducted over a two-month period (the Philippines developed 20 modules for remedial reading). All children now are capable of learning in the language of instruction.

Remediation of reading difficulties is a problem that IMPACT should have to face only during the present developmental stage. Once the system is developed for the complete primary curriculum, modular instruction will be sequenced so that comprehension is assured before a child undertakes a given module:

Project development has been phased in easy steps so that each can be completed successfully before going on to the next. For example:

- ... initially the project is at the 4th grade level only, moving to the 5th and 6th in the next two years, followed by the development of grades 1-3 in the 4th year;
- ... initially only two subjects are given to a single class of students (different classes receive different subjects), moving to all subjects at the 4th grade after one semester. (The Philippines, having begun learning activities in June, now includes all subjects. Indonesia, having begun in September, remains with two subjects per class).

* Note that the use of grade level designations will eventually disappear since IMPACT is modular and ungraded.

** A recent change in the Philippines is that certain subjects are to be taught throughout primary school in the national Pilipino language and others are to be taught in English.

... initially all learning has taken place at school with the teacher playing the roles of both parent (monitoring) and older student (tutoring). Students are now doing part of their learning away from school and are being monitored by parents and tutored by older students.

Because IMPACT requires the development of new instructional materials*, a major effort of project staffs has been the development of learning modules. Indonesia began IMPACT instruction in September in the last trimester of the 4th grade. The staff at Solo, therefore, has had to prepare modules for not only the last trimester of 4th grade, but also for the first trimester of 5th grade which begins in January, 1975. The following two tables show the progress in *Indonesia* in materials preparation:

Grade IV Modules:

SUBJECT MATTER	Drafted	Printed and Bound
Bahasa Indonesia	9	7
Javanese	1	0
Sciences	10	7
Mathematics	20	14
Geography	9	6
Civic	8	6
History	9	6
Home Economics	4	3
Farming (Field)	4	3
Applied Skills	3	2
Poultry Farming	4	3
TOTAL	81	57

*No changes have been made in either the objectives or the content of instruction, only the method of instruction.

Grade V Modules:

SUBJECT MATTER	Drafted	Printed and Bound
Bahasa Indonesia	4	3
Javanese	1	0
Sciences	5	3
Mathematics	5	3
Geography	5	3
Civic	5	3
History	9	6
Home Economics	8	6
Farming	6	4
Applied Skills	3	2
TOTAL	51	33

In the *Philippines*, IMPACT instruction began in June at the start of 4th grade. The Naga staff, there, has concentrated upon the full 4th grade school year and will move on to the 5th grade in June, 1975. Progress in material preparation to date is shown below:

Number of Modules (Grade IV)

SUBJECT MATTER	Drafted	Printed and Bound
Language	24	19
Reading grade IV	40	12
Reading grade III	20	20
Science grade IB	38	13
Mathematics	50	13
Social Studies	46	12
Pilipino	39	13
Applied Skills	46	13
TOTAL	303	115

Examples of modules from the two field sites are given in the Appendix.

Student learning activities began in the Philippines in June and in Indonesia in early September. Much of the initial period was given over to reading remediation, but progress is now being made in other subjects as well. Only two subjects are included at present at any one school so that the initial burden on project staff and teachers is not too heavy. In Indonesia, 4 subjects for grade V will begin in



*Project IMPACT field staff meeting with
Deputy Director of INNOTECH in Saigon*

January 1975 and, in the Philippines, all subjects grade IV began in December 1974. Although progress of learning activities in Indonesia is not available at this early date, that in the Philippines is given on the next pages as of October 31. Even at this early date it is clear that children are progressing at their own rate.

READING 4 Module	PERCENTAGE OF PUPILS
1	5
2	8
3	9
4	27
5	11
6	15
7	21
8	4
LANGUAGE	
3	3
4	2
5	3
6	10
7	11
Block Module	
8	8
9	12
10	14
11	29
	8
APPLIED SKILLS	
3	4
4	4
5	16
6	24
7	52
MATH	
5	3
Block Module	
6	34
7	9
8	9
9	6
10	22
	16

SCIENCE	
5	5
6	14
7	29
8	24
9	19
10	10
PHILIPINO	
Module	
2	2
3	8
4	6
Block Module	
	11
5	23
6	2
7	17
8	15
9	15
SOCIAL STUDIE	
4	18
5	6
Block Module	
	24
6	3
7	0
8	0
9	0
10	49

At this stage there is no learning center, and modular instruction is taking place primarily at school, although children are encouraged to take their modules home. The 4th grade teachers act as "parents" in monitoring learning activities, as "tutors" in giving module post-tests and remediation and as "Instructional Supervisors" in managing all activities and recording progress.

The management of the learning center is in the planning phase. Meetings and brainstorming on this topic were held in December at both sites.

Wall charts of student progress are maintained at the schools. More complete individual records are maintained on tutor report slips and on Individual Module Progress charts. At the completion of each module, a slip is sent to a child's parents so that they can be informed of progress.

The system of student-progress records seems to be working very well as a motivator (of both students and parents). Children cluster around the classroom charts as progress is marked, and they proudly carry home their parent-report slips. Parents also are proud to receive the slips, showing other parents their own children's progress. (One parent in Uling came to the school to find out why her child had not received a slip. When shown the problems that the child was having, she asked "What can I do?" She was told to go over the module with her child -- which she did one whole weekend. Result: 100% score on post-test and the parent received her report slip.)

The use of older students as tutors has begun in the Philippines, and training of tutors has started in Indonesia. Tutorials are still done under the direct supervision of teachers, but it is hoped that the tutorial system shortly can relieve teachers of much of this load. In Cebu, 70% of tutorial help can be provided at home by parents and elder brothers or sisters.

Project IMPACT is on schedule, children are learning via modules, and there is a general acceptance by students and the community. One present problem is that some children are not attending their other (non-modular instructional) courses, preferring to stay home with their modules.

Plans

Indonesia

January 1975	2 subjects for grade IV 4 subjects for grade V
April 1975	4 subjects for grade IV 6 subjects for grade V
September 1975	6 subjects for grade IV (revised materials) 6 subjects for grade V
January 1976	2 subjects for grade III 6 subjects (revised) for grade IV 6 subjects (revised) for grade V
April 1976	2 subjects for grade II 4 subjects for grade III
September 1976	4 subjects for grade II 6 subjects for grade III
September 1977	2 subjects for grade I

Philippines

November 1974	All subjects for grade IV
June 1975	All subjects grade V
July 1976	All subjects grade VI

PROJECT RIT (REDUCED INSTRUCTIONAL TIME)

Purposes

1. The overall purpose is to increase the efficiency of present school personnel and facilities so that an increased number of children can make use of them.
2. Increase student learning rates. Students should acquire skills and knowledge in less time than they are now taking. This may mean that a student who now takes 30 minutes to memorize a set of history facts may increase his learning rate so that he is able to do the same thing in only 15 minutes, or a student taking five hours to learn how to use an addition algorithm may be able to decrease this time by one hour or so.
3. Reduce the amount of time that students and teachers interact. At the present time teachers spend approximately four hours per day with their students. We intended to reduce this as much as possible without increasing the total number of hours that a student spends in learning (in-school plus out-of-school time). In other words, the total learning time a student is now using should not increase but the amount of time that he is with a teacher should decrease. Taking these two objectives together, it may be possible at some time in the future to decrease both the time that a student takes to learn a given amount of material and also decrease the amount of time needed to be spent with a teacher.

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 unessential activities. Instruction can be made both more effective and efficient through appropriate design of the instructional program. This particular aspect of INNOTECH's research program should limit itself to helping present schools and teachers to increase the efficiency of instruction.



Project RIT staff examines alternative approaches in regular critique session

The possible outcomes of more effective efficient instructional processes probably mean 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 programs are to be accepted.

Description

Project RIT is at present being conducted solely in Vietnam by the INNOTECH research staff. In overall design, RIT is attempting to develop learning materials and procedures which will reduce the time it takes a student to learn and reduce the time required by teachers. Both reductions could lead to a rescheduling of classes to provide rooms for additional students.

RIT is being conducted in three phases.

- Phase I* takes a representative sample of learning segments (of approximately 4-6 hours) from the curriculum and redesigns the instructional materials and procedures to achieve a combined Increased Learning Rate (ILR) and Reduced Student-Teacher Interaction (RSTI). Two to four "mock-ups" are tried out in schools for a 1-2 hour portion of each sample. Following tryouts a single "mock-up" is used for a 4-6 hour experiment comparing experimental and control groups.*
- Phase II* encompasses the RIT redesign and rescheduling of the complete Vietnamese primary curriculum based upon what was learned in Phase I. (2 years)
- Phase III* is the implementation of the redesigned and rescheduled curriculum in two large pilot schools, one rural and one urban. (2 years)

*Examples of RIT mock-ups are given in the Appendix.

Progress

The staff of Project RIT work out of the INNOTECH office in Saigon.

Project Leader: Dr. A.O.B. Situmorang (Indonesia)

Language Team: Mrs. Bibiana Q. Corcoro (Philippines)
Mrs. Dao Kim Phung (Vietnam)
Mr. Le Thanh Viet (Vietnam)

Science Team: Miss Nuanchan Potar (Thailand)
Mr. Tran Huu Long (Vietnam)

Social Sciences Team:

Miss Tran Thi Khue (Vietnam)
Miss Joan F. Tuck

Mathematics Team:

Mrs. Nguyen Ngoc Chau (Vietnam)
Dr. A.O.B. Situmorang (Indonesia)

Coordination with the Ministry of Culture, Education and Youth in Vietnam is essential to the success of RIT; the project must involve not only schools and students but also personnel from the Ministry. To this end, a preliminary meeting was held under the chairmanship of Dr. Pham Huu Hiep to outline a cooperative effort by the Ministry and INNOTECH. Attendees from the Ministry represented the Directorate of Educational Documentation and Research, the Directorate of International Affairs, the Directorate of Program and School Legislation, and the Directorate of Academic Affairs. It was decided that a Project RIT Steering Committee would be established shortly to facilitate the needed coordination. It is likely that the first action of the Committee will be to prepare a document outlining the project and the joint commitments needed by INNOTECH and the Ministry -- and requesting formal approval for commitments, including:

- ... Access to schools for tryout and experimentation;
- ... Provision of 12 professionals by INNOTECH and 12 by the Ministry for the two years of Phase II (redesign and production of materials and procedures for the complete primary curriculum (July, 1975 - June, 1977));
- ... Provision of six persons from each side for the first year of implementation (July, 1977 - June, 1978);

- ... Provision of three persons from each side for the second (and final) year of implementation (July, 1978 - June, 1979);
- ... Provision of two large primary schools (one urban and one rural) to be pilot schools for the two-year implementation of Phase III (July, 1977 - June, 1979).

20 samples of the Vietnamese curriculum have been selected as being representative of the various types of learning in the primary grades. Two-to three-person research teams concentrate in each of four subject areas: language, science, social studies, and mathematics.

47 "mockups" have been developed (up to December) for 15 learning units. Two of these were tried out in schools in Saigon near the completion of the 1973-74 school terms. In this second school year up to December, another ten units were tried out in different schools in Saigon:

- Hoang Thuy Nam School
- Tran Hung Dao School
- Nguyen Huynh Duc School
- Nguyen Thai Hoc School
- Co Giang School
- Phan Dinh Phung School

And the remaining units will be tried out before the end of January, 1975.

Sixteen teachers have been hired to work with INNOTECH on a part time basis. They participate with us in the development of the procedures and materials, and do the actual classroom teaching of the materials during the tryout phase.

The steps in developing "mock-ups" and conducting initial tryouts are as follows:

- Step A* - Present teaching materials for each segment are translated into English (when researchers are not Vietnamese).
- Step B* - Teachers are carefully interviewed to determine what is being taught, how it is now taught, present problems, and the objectives (performance expected of a child on completion).
- Step C* - One person on the staff has been designated as a "resource person." His job is to be completely familiar with a variety of instructional



*Project RIT classroom try-out -
the "buddy-system" in action*

methods. Each team discusses their learning segment with the resource person, gaining ideas on how the learning might be done effectively with minimum teacher involvement. Often articles or books are recommended by the resource person as bases for ideas.

- Step D* - Each team writes up a description of the segment (including specific objectives) and some of the ideas on how it might best be learned. The total RIT staff studies the description, in preparation for a free-flowing "brainstorming" session in which creative ideas are explored and critical comments are avoided.
- Step E* - The list of potential ideas coming out of the brainstorming session is then studied and discussed among team members who then decide upon two to four approaches which they feel will best reduce instructional time. A team prepares drafts of each approach in sufficient detail for a critique session.
- Step F* - Selected members of the staff participate in a "critique" session (or several if necessary) discussing and modifying the drafts until all are satisfied that each mock-up is feasible.
- Step G* - Team members complete each mock (in English for non-Vietnamese staff members).
- Step H* - Translators put the mocks into the Vietnamese language (Vietnamese research staff members and teachers review and polish the translations).
- Step I* - Complete illustrations, typing and reproduction.
- Step J* - Schedule schools for tryouts.
- Step K* - Train and prepare teachers, holding pre-tryout practice sessions with children.
- Step L* - Conduct tryouts.

PROGRESS IN PREPARING AND CONDUCTING TRYOUTS IS AS FOLLOWS:
(up to the end of November)

Learning Segment and Grade	Project Steps Leading to Tryouts											
	A	B	C	D	E	F	G	H	I	J	K	L
Reading - Grade IV	X	X	X	X	(Language)				X	X	X	X
Composition - Grade III	X	X	X	X	X	X	X	X	X	X	X	X
Writing - Grade I	X	X	X	X	X	X	X	X	X	X	X	
Dictation - Grade II	X	X	X	X	X	X	X	X	X	X	X	
Vocabulary - Grade III	X	X	X	X	X	X	X	X	X	X		
Grammar - Grade IV	X	X	X									
Penmanship - Grade III												
Plants - Grade III	X	X	X	X	X	(Science)				X	X	X
Hygiene - Grade II	X	X	X	X	X	X	X	X	X	X	X	X
Time - Grade I	X	X	X	X	X	X	X					
Transformation - Grade IV	X	X	X	X	X	X	X	X	X	X	X	X
Metrics - Grade II	X	X	X	X	(Mathematics)				X	X	X	
Addition/Subtraction - Grade I	X	X	X	X	X	X	X	X	X	X	X	X
Fractions - Grade IV (No tryout)	X	X										
Geometry - Grade III	X	X	X	X	X	X	X	X	X	X	X	X
Multiplication/Division - Grade III	X	X	X	X	X	X	X	X	X	X	X	X
French Occupation - Grade V	X	(Social Studies)			X	X	X	X	X	X	X	X
Morals - Grade II	X	X	X	X	X	X	X	X	X	X	X	X
Geography - Grade III	X	X	X	X	X	X	X	X	X	X	X	X
History of Le Loi - Grade IV	X	X	X	X	X	X	X	X	X	X	X	X

Early tryouts have given a preliminary indication that Reduced Instructional Time within present school structures is a viable concept. (Both time reduction and improved student achievement were obtained in tryouts of short segments.) The preparation of mock-ups is on schedule except in language where a turnover of personnel limited our ability to maintain early schedules. However, three Vietnamese professionals are now working full-time and should achieve the targets given on the next page.

The quality of mock-ups is generally excellent and creative. We must, however, avoid falling into a semantic trap of equating only self-instruction to the reduction of teacher time and of equating small-step linear programs to self-instruction. The target of reducing teacher class-time while improving student achievement can be arrived at by a variety of "minimal-teacher" modes of instruction, e.g. buddy-systems, peer tutoring, student-managed group activities, individual projects, etc.

From the perspective of project status six months ago, however, progress (and planning) has exceeded expectations.

Plans

December 74

- ... Make arrangements for the experimental phase with province chiefs and rural and urban school principals.
- ... Analyse of tryout results of other tried-out units and selection, revise and develop "Mock-up" for experiment.
- ... Tryout: Writing grade I unit
 Dictation grade II unit
 Vocabulary grade III unit
- ... Experiment: Science grade III unit on Plants
 Science grade II unit on Food and Drink

January 75

- ... Tryout: Science grade I unit on Time
 Geography grade III unit

- ... Experiment: Social Sciences grade II unit on Morals
History grade V unit (January - February 75)
Arithmetic grade III unit on Division
Language grade IV unit on Reading
(January-February)

February 75

- ... Tryout: Grammar grade IV unit
Penmanship grade III unit
- ... Experiment: Arithmetic grade IV unit on Fractions
Writing grade I unit

March 75

- ... Experiment: Dictation grade II unit
History grade IV unit
Metrics grade II unit (March-April) on Money
Geometry grade III unit (March-April)
on Triangle
Arithmetic Grade I unit on Subtraction
Science grade I unit on Time (March-April)
Science grade IV unit on Transformation
Grammar grade IV unit (March-April)

April 75

- ... Experiment: Vocabulary grade III unit (April-May)
Composition grade III unit (April-May)
Penmanship grade III unit
Geography grade III unit (April-May)

INFORMATION AND CLEARINGHOUSE

During 1974, INNOTECH has distributed a monthly Newsletter, produced in 4,000 copies. Topics covered by the Newsletters include:

- ... a series of research notes on the progress of Projects IMPACT and RIT,
- ... a rationale for Project RIT (titled "What if...?"),
- ... a description of the DISTAR system for the development of effective learning materials and procedures,



*Information and Clearing house staff
discuss layout of INNOTECH Newsletter*

- ... a progress report on the Indonesian project on "Life-Skills Objectives,"
- ... an editorial on "How to Help a Tutor,"
- ... a report on the preliminary Meeting on SEAMEO's Role in Post-War Educational Development,
- ... a description of Self-Help Barrio High Schools in the Philippines,
- ... an outline of the 6th Three-Month Training Program,
- ... a report of the 9th Governing Board Meeting,
- ... a description of the Philippines approach to mass primary education, titled the "In-School Off-School Approach,"
- ... an outline of "Promise Asia", an innovative self-study approach to learning at INNOTECH,
- ... an editorial on utilizing the Hawthorne effect for effective learning,
- ... a description of Tanzania's "Nation-Wide Learning System,"
- ... a report of the 7th Three-Month Training Program,
- ... the Ecuador Non-formal Education Project,
- ... an exposition on formal and non-formal Education in Southeast Asia,
- ... a report of the 10th Governing Board Meeting,
- ... an outline of INNOTECH's Five-Year Development Plan,
- ... a description of the School Equivalency program in Thailand,
- ... a report on Using Non-Teacher Instruction to Maximize Teacher Effectiveness,
- ... a description of the application of programmed teaching in Vietnam,

- ... an overview of new INNOTECH training programs,
- ... an explanation of the reform of examinations in Vietnam,
- ... a comparison of educational problems in Northwest Canada and Southeast Asia,
- ... a review of the seminar on "The Content of Primary Education for Post-War Development,"
- ... the use of commonly obtainable materials for science instruction,
- ... a description of the two-week INNOTECH course on the preparation of self-instructional learning materials.

Six technical reports and two Board reports were published in 1974.

Selected Readings from INNOTECH 1972-1973.
Saigon: INNOTECH, January 1974 (INNOTECH/SR-74/7).

Milan-Baduel C. and Respati B., Project IMPACT for Mass Primary Education, Saigon: INNOTECH, August 1974 (INNOTECH/IMP-PR-7/74).

INNOTECH, Project RIT for Mass Primary Education, Saigon: INNOTECH, August 1974 (INNOTECH/RIT-PR-1/74).

Sudijarto and Sutjipto. Setting Priorities Among Educational Objectives. Saigon: INNOTECH, April 1974 (INNOTECH/SP-FR/74).

Bullock, Chau, Engelman, Flanagan, Hawes, Hawkrige, Homme, Nathenson, Short, Sofer and Wong. Instructional Efficiency: A Means for Reducing Formal Classroom Time. Saigon: INNOTECH, May 1974 (INNOTECH/IE-FR/74).

The Content of Primary Education for Post-War Development, a Regional Seminar - Final Report. Saigon: INNOTECH, December 1974.

9th INNOTECH Governing Board Meeting: Final Report. Yogyakarta: INNOTECH, March 1974 (INNOTECH/9BD/74).

10th INNOTECH Governing Board Meeting: Final Report. Saigon: INNOTECH, July 1974 (INNOTECH/10BD/74).

SPECIAL PROGRAMS AND SERVICES

An important function of INNOTECH is to provide consultative and advisory services, to conduct seminars on priority problems, and to exchange ideas with other organizations in meetings and seminars.

INNOTECH staff members presented papers and participated in five important meetings and conferences.

- ... The Government of the Philippines, under the auspices of the IMPACT National Steering Committee, organized a three-day seminar on the function and design of community learning centers. Staff members delivered two papers (one on the functions of learning centers and the other on the process of evaluation and remediation in assuring effective learning in community centers).
- ... The Government of Indonesia, under the auspices of the Office for Educational Development, conducted a companion seminar on community learning centers. A single paper was presented to the conference on the relation of IMPACT to learning centers.
- ... A week-long conference was hosted by Michigan State University to explore non-formal modes of education. A paper on IMPACT presented by INNOTECH staff was enthusiastically discussed.
- ... Representatives of most of the Southeast Asian countries met in an informal brainstorming session with prospective donors in an effort to anticipate future programs and funding requirements. INNOTECH's proposals for discussion included (1) a 1-12 educational delivery system (based on IMPACT, RIT, ISOSA, etc.), (2) the possibility of developing the SEAMEO/INNOTECH model in other regions of the world, and (3) a program to include expert economic/political inputs into educational planning.
- ... IBE/UNESCO organized a Meeting of Experts on the Development of School Libraries into Multimedia Centres in Secondary-Level Education, in Geneva. A paper was delivered on a proposal for Multimedia Centres in SEAMEO Countries.



INNOTECH makes a first attempt to assist the Indochina countries

At the request of the Government of Indonesia, INNOTECH staff provided consultative assistance in the design of a project to derive relevant life-skills objectives, i.e., those priority educational attainments for children who are unable to complete more than 4 or 5 years of primary education.

This Center's annual Regional Seminar had as its theme "The Content of Primary Education for Post-War Development." The seminar provided the needed joining of our work in primary education with SEAMEO's commitment to assist the Indochina countries in their post-war educational development.

A total of 12 presentations were made, one from each of the SEAMEO member countries and four by specialists outside the region.

1. Report of the Khmer Delegation
by Mr. Meas Dim
and Mr. Chea Chean
Khmer Republic
2. Report on "The Development of Post-War Education"
by Tiao Vannitha & Mr. Khamphone Phonekeo
LAOS
3. Changes in Curriculum of Korean
Elementary Schools
by Dr. Yung Dug Lee
Republic of Korea
4. The Content of Primary Education for Post-War Development
by Dr. Nguyen Xuan Thu
Republic of Vietnam
5. Some Thoughts about Primary Education
Dr. Robert W. Smail
RED Office, Bangkok, Thailand
6. The Content of Primary Education for Post-War Development
by Mrs. Bertha Neo & Mr. Ho Chee Kim
Singapore
7. The Content of Primary Education for Post-war Development
by Mr. Wook Nordin & Mr. Abdul Halim
Malaysia

8. A Strategy for Deriving Relevant Content of Education (an Indonesian case)
by Drs. Soedijarto
Indonesia
9. Deriving Educational Objectives and Priorities
by Dr. Vincent N. Campbell
AIR, U.S.A.
10. The Nigerian Experience
by Dr. Robert W. Smail
RED Office, Bangkok, Thailand
11. Post-War Reconstruction of Materials and Minds
by Mrs. Suman Amornvivat
Thailand
12. A Model for Deriving the Content of Primary Education for Post-War Development
by Dr. Minda C. Sutaria
Philippines

The above twelve papers were delivered and discussed during the first two days. The remaining three days of the seminar were devoted to three study group sessions on different topics of relevance for the development of content and for gaining acceptance of possible content changes .

Study Group A was responsible for *Methods for Identifying Problems and Needs* and submitted the following recommendations:

1. Set up a national assessment body, interministerial in composition to define objectives, policies, and programs at the national level.
2. The national body will appoint task forces, at least one in each Ministry, professional in nature, which will have the responsibility of implementing policies set. The work of the task force shall be coordinated by an appropriate body in the Ministry.

The Educational Task Force will have the following responsibilities:

1. Define educational outcomes in terms of desired learners' characteristics. It may be necessary for the task force to secure the active involvement of representatives of all sectors vitally concerned in, and affected by, the results of the educational process.

2. Identify procedures for determining present status in terms of desired educational outcomes:
 - ... Categorize various types of educational outcomes in terms of the desired educational outcomes defined.
 - ... Determine procedures for assessing present status of each type.
 - ... Assess present status.
3. Determine discrepancies between present status and desired outcomes (problems).
4. Set priorities among educational objectives.
5. Submit recommendations to national body.

In the national assessment activity, the services of SEAMEO centers and other regional/international agencies, as well as national ad hoc committees, including university groups, may be fully utilized.

Study Group B was charged with recommending Methods for Deriving Relevant Content. Its results:

A model for deriving content was built, consisting of three components: specific tasks, information resources, and some alternative working arrangements in structure and techniques. For each major task, suggestions were listed for each component.

Major tasks were:

1. Derive objectives from needs
2. Validate with specific examples
3. Set priorities
4. Translate objectives into content
5. Evaluate and revise content by repeating Steps 1 through 4.

The model outline offers alternatives and is not meant to prescribe only one correct method. It emphasizes the fullest use of local resources and budget in each country.

Study Group C focussed on *Methods for Implementing Change*:

In developing recommended methods for implementing change, Group C concentrated upon the content of primary education. However, it also had to consider to a very limited degree how the new content might be delivered because of the implications for acceptance of or resistance to the changed roles of educational students.

The general procedure suggested by Group C requires the identification of appropriate persons or groups whose acceptance of or resistance to a change in content would impinge upon its ultimate implementation. By developing a set of factors related to the possible perceptions about given content changes by those persons or groups, and by judging whether their perceptions would be positive or negative toward the change, it would then be possible to target specific sources of support and resistance.

Factors related to the methods for implementing a change (i.e., "involvement in development," "being fully informed," "being convinced of need," etc.) can be considered for each target group or individual, and judgments can be made how important the perceptions are (for groups and individuals) to the acceptance and implementation of the changed content. The result of these judgments will identify what methods of implementation should be emphasized to overcome resistance and marshal support.

Strategies for change can then be developed as a planned program both to change perceptions and to modify the process of implementation.

A final report of the Seminar's presentations and Study Group recommendations is now available.

ADVANCED PLANNING

- Five-Year Development Plan
- Human Resources Development
in The Lower Mekong Basin
- Preparing Teachers for
Non-Traditional Roles
- The In-School Off-School
Approach for Mass Primary
Education

The continued viability of INNOTECH will depend, to a large extent, on the Center's ability to anticipate and plan for future educational needs in the SEAMEO Region. To this end, the responsibility for planning has been vested in an Advanced Planning Group. This Group, although having the primary responsibility for planning, interacts on a regular basis with all divisions of the Center to gain their inputs in initial planning stages and their recommendations and approval at later stages. This progress report, therefore, does not represent solely the work of a single group; it represents the combined efforts of all Center personnel.

In 1974, there were four separate advanced planning developments: (a) the Five-Year Development Plan, (b) a joint proposal with SEAMES, TROPMED, and SEARCA for Human Resources Development in the Lower Mekong Basin, (c) a proposal for the preparation of teachers for non-traditional roles, and (d) a proposal for joining certain aspects of INNOTECH's Project IMPACT with the In-School Off-School Approach of the Philippines.

FIVE-YEAR DEVELOPMENT PLAN

INNOTECH enters its permanent five-year phase in January, 1975. The Development Plan, as prepared by the Center* was reviewed and approved by the Governing Board in July, 1974, and subsequently approved by the Council in December, 1974.

The main features of the Development Plan are outlined below using excerpts from the Plan itself.

PROGRAMS AND ACTIVITIES

To achieve the purposes declared for INNOTECH in its charter, it will be necessary for the Center to maintain flexibility in its programs and activities, thereby creating a capacity to respond effectively to new problems and needs and changing priorities within the SEAMEO region. With this in mind, the following program projections have been developed as broad designs to provide a basis for estimating operational costs and capital requirements, with the expectation that specific activities within these broad parameters will be adjusted, redefined, redirected, and otherwise modified to allow the needed flexibility.

As with other SEAMEO centers, INNOTECH's programs and activities are categorized into (A) training, (B) research, (C) information and clearing-house, and (D) special programs and services. This classification is for emphasis and for practical operational purposes, and should

*We are grateful for the consultative assistance of Dr. Robert Jacobs in the preparation of the Development Plan.

in no way be interpreted as a separation of one category from another. On the contrary, all programs and activities are interrelated and integrated in terms of INNOTECH's mission. Specifically, INNOTECH's operational philosophy is to provide opportunities for a free flow of ideas to take place between Training and Research, notwithstanding the organizational separation of the two. And this constant interplay of activities should be instrumental for both in order to benefit from each other's experiences. A general outline and description of each of these types of activity follow:

Training

One of the strategic moves in breaking the inertia of a system is injection of dynamic and competent elements into it, to serve as change agents. And these elements must needs be internal to the system in order to build acceptance and support of educational change. Training courses must be designed to meet the specific needs of educational development of the Southeast Asia region. And the participants in these courses, being key educators and administrators - those officials involved in the process of national educational research and planning in the SEAMEO member countries - will become the change agents.

The above concept materializes in the INNOTECH training activities (described briefly in the sections immediately following) consisting of the 3-month training program, the 9-month training program, and short-courses.

The 3-Month Training Program

This is an intensive training course designed for senior personnel involved in educational management. The rationale for the course as it is now designed is that knowledge of the systems approach, familiarity with the processes of innovation, and awareness of the potential of educational technology will be of considerable value to educators who are directly involved in educational development. The course is of 3 months duration to accommodate the understanding that senior officials cannot be away from regular responsibilities for longer periods of time without doing an injustice to their home situations.

The overall purpose of the course is to provide key educators with the innovative skills and functional knowledge needed to apply the systems approach to educational planning, educational decision-making, and application of realistic change strategies.

The 9-Month Training Program

This training activity (the 9-month program) is an instrumentality for dealing with training needs which provide longer exposure to learning

experiences than provided by the 3-month course. Initially, the course will be used to deal with the shortage of practically trained, applied researchers in the SEAMEO region. The course may be shifted to other topics when the Governing Board considers it desirable, but it is anticipated that research training will be needed through the major part of the first 5-year period.

Because of the length of the course and the limitations on the availability of scholarship funds, it will be necessary to limit the intake of this course to two participants annually (SEAMEO-funded) from each of the SEAMEO countries.

Short Courses

These short-term training activities will have a maximum duration of two weeks and will deal with specialized topics in the planning and management of educational innovation and technology relevant to the region. These activities will be a major instrumentality for implementing INNOTECH's training flexibility. They will deal with topics and problems of current urgency, and they may be sited anywhere in the region, as well as at the Center.

Short courses will be conducted twice a year with three participants (SEAMEO-funded) from each member country for each course. The minimum target goal for regional impact from this activity is 240 participants for the first five years.

Research

INNOTECH's research activities will be relevant, problem-oriented research rather than pure theoretical research, and will be primarily institutional type research; i.e., research that is carried out directly by the Center staff. Additionally, it is planned for the Center to sponsor some individual research by innovators in the region. The latter category of research and a substantial part of the institutional type research will be financed outside the core 5-year plan funding scheme on a packaged, project-by-project proposal basis.

During the first five years, the major thrust of the INNOTECH research programs will be the development of alternative delivery systems for mass primary education, the task assigned INNOTECH from the SEAMEO development activities for the decade of the '70's. This activity will be incorporated into the 5-year funding scheme. However, primary education problems are both massive and complex, and the relationship of primary education to other levels of education must be taken into account. Hence, there will be a continual identification of problems to be studied and continuous responsive efforts by INNOTECH to deal with such emerging and evolving needs for research. Certain of these evolving needs can perhaps be dealt with effectively by individual member

countries, but some will become the responsibility of INNOTECH. There is no intention to turn away from such responsibilities by becoming exclusively occupied with the new delivery systems for mass primary education. A brief outline of the categories of INNOTECH research, providing instrumentalities for implementing the above intentions, follows:

CENTER RESEARCH

Project IMPACT - Instructional Management by Parents, Community, and Teachers.

This project is the major INNOTECH response to the SEAMEO assignment of developing and testing new delivery systems for mass primary education. Work on the project was initiated during INNOTECH's interim phase, with experimental sites in Naga, Philippines and Solo, Indonesia. It is anticipated that the work at these sites will extend through June, 1976, and that the project will be expanded and extended to other sites, taking any new directions that may become appropriate after the initial pilot programs to further test and refine this particular alternative delivery system. Such extension will be financed outside the 5-year funding scheme. Work on the project will therefore continue throughout the first 5-year period of permanent operations.

Project RIT - Reduction of Instructional Time

This project is also part of the INNOTECH total effort to develop alternative delivery systems for mass primary education, the task assigned from the SEAMEO Plan for the '70's.

The primary purpose of this research is to determine if the objectives set for the primary level of schooling can be achieved within the formal system in considerably less time than is now taken. In order for this to be accomplished, the efficiency of the present school personnel and facilities must be significantly increased. This is to be done by redesigning the instructional process to both increase the learning rates of children and reduce unnecessary classroom teaching in the traditional manner. If successful, Project RIT will provide a new model for delivering primary education which will extend existing facilities to substantially larger numbers of pupils and thus increase output from the present school budget inputs.

OTHER POSSIBLE CENTER RESEARCH

Radio Education

Experimentation with radio as a delivery medium for achieving some

of the primary objectives, such as science and math instruction, is under consideration and will be developed as a project for financing outside the 5-year funding scheme when the timing is appropriate (probably 1975). It is anticipated that this may be part of the research activities of the first five years.

Teacher Training Research

Since this is one of the priority areas identified in the SEAMEO Plan for the '70's, it is likely that this may be developed as a separate project rather than a component of either IMPACT or RIT. This will not be started before 1976; it would be financed outside the 5-year funding scheme.

School Finance Research

Research in school finance and costing aspects of educational planning and experimentation may be undertaken within the 5-year period, directed toward identification of resources for educational costs, development of models for school financing, and creation of appropriate techniques for carrying out cost/benefit analyses in Southeast Asia.

Individual Research

Research proposals from innovators within the region - proposals which are in line with INNOTECH purposes - will be entertained by the Center. After screening and selection, such individual research will be financed through the joint fund-seeking efforts of INNOTECH, SEAMES, and the home country of the researcher. Such financing will be outside Special Funds and outside the 5-year funding scheme.

Clearing House and Information Activities

An important function of the INNOTECH Center will be to keep member countries informed and up to date with regard to research, innovations, educational experimentation, utilization of educational experimentation, and utilization of educational technology in progress within and outside the region. This is a complex undertaking which will involve establishment of channels of communications and exchange whereby there can be a continuous flow of information to the center from institutions, agencies, and other sources of data on these subjects, and whereby the center can organize, screen and digest this information for dissemination to points of utilization in the member countries.

Clearing house and information activities form a vitally important service which a regional center can provide, and if properly implemented will become the strongest link between the regional and national centers in the INNOTECH network, supplying valuable resources and reference

bases for educational planning and research in the SEAMEO countries.

The clearing house and information activities will be implemented by a unit within the INNOTECH organizational structure encompassing the following components:

Library

Publications

- (1) Newsletter
- (2) Bulletin or Journal
- (3) Seminar and Project Reports
- (4) Books
- (5) Other publications, e.g., reports of board meetings, 5-year plan, reports of technical working groups, progress reports, etc.

Clearing House

- (1) Collect and disseminate information
- (2) Establish exchange relationships with agencies and organizations within and outside the region - those having shared interests in educational innovation and technology, providing a basis for mutual exchange of information, publications, and data.

Public Relations

- (1) Promote new coverage and publicity
- (2) Develop support for the Center
- (3) Handle inquiries and visitors

Special Programs and Services

In addition to the regular training, research, and clearing house functions of this Center, INNOTECH will provide special programs and services to the SEAMEO countries. Projected activities which fall into this program will be categorized as follows:

Seminars and Conferences

One major, 5-day seminar will be held each year with three participants (SEAMEO-funded) from each member country. Seminar topics will cover vital issues relating to INNOTECH purposes which develop as INNOTECH work progresses through the 5-year period.

Developmental Workshops

Certain of the problem-solving aims of the INNOTECH Center will be accomplished by bringing together professionals with research skills from the member countries to work on specific problems; e.g., developing a self-instructional package for population education, or designing simulation techniques for vocational education. (These are illustrative topics only -- not identified with current plans).

Special Services

INNOTECH will offer special services to the member countries of SEAMEO, assisting them wherever possible with problem-solving, research, and innovative activities at the national level. Such services can be offered only as the demands of the regular programs will permit, and they will be generally of the following types:

Consulting and Advisory Services

Specialists on the INNOTECH staff will be made available whenever possible to serve as consultants or advisors in planning, implementing and evaluating national training and research activities.

Support of National Centers

An essential component of the total plan of INNOTECH operations is the network of national centers linked closely to the regional center. As part of Special Services, INNOTECH will extend professional backstopping to the national centers, making available, as feasible, the technical resources and specialist expertise of the regional center as may be needed in carrying out joint programs or developing national programs of potential regional impact.

Support of Individual Research

INNOTECH will provide professional advice as feasible and will make resources available for implementing individual research projects.

PROJECTED FIVE-YEAR IMPACT

It has been pointed out that INNOTECH stands unique among the SEAMEO centers. This uniqueness manifests itself in many ways, but paramount is the fact that its charter provides the center with a broad mandate to work across the board, without limitation, in the education sector. It is SEAMEO's instrumentality for pioneering innovation, testing new ideas, and developing indigenous solutions to educational problems found in the SEAMEO region. Its establishment (institutionalization), its operations which will uncomfortably question long-held assumptions and serve as a gadfly to stimulate new directions, its links with national programs will, in and of themselves, make a profound impact on thinking and action among educators in the region, affecting in many ways the processes of educational change and reform in the SEAMEO countries. These indirect benefits will constitute perhaps the most striking impact of the center's 5-year operational plan, even though their subtlety defies quantification - the dimension sought and expected in projecting results. This fact must not be forgotten as one evaluates the impact which does lend itself to quantification - those facts and figures which follow:

Projected output from 5-year operational programs and activities

Training

- *480 change strategists* - key educators dispersed throughout the 8 SEAMEO countries, with innovative skills and functional knowledge needed to apply the systems approach to educational planning, educational decision-making, and application of realistic change strategies.
- *80 applied researchers* in key positions in the national INNOTECH centers, research institutes, and research training institutions of the SEAMEO region.
- *240 educational specialists* capable of applying INNOTECH concepts in their particular fields as a result of exposure to short-course type of activity sponsored by INNOTECH.

Research

- A prototype learning system which makes maximum utilization of community resources operable in the SEAMEO countries without the conventional classroom and classroom teacher.
- A prototype learning system which is capable of achieving primary school objectives within the formal school system in considerably less time than normally taken for the primary cycle.



*Dr. Robert Jacobs assists INNOTECH
in the development of the Five-Year Plan*

A number of models (systems and/or prototype solutions to specified problems), possibly for teacher training, radio education, and school finance.

Information and Clearinghouse Activities

- Well-established and smoothly operating links (exchange relationships) with institutions, agencies and organizations within and outside the region, providing a flow of up-to-date and useful information about innovations and developments in education around the world, and an out-flow of information concerning the work of INNOTECH.
- Established communication links with institutions, agencies, and key educators in the SEAMEO region identified as users and disseminators of information about educational innovation and change.
- An up-to-date library providing the INNOTECH center and the SEAMEO countries with a broadly-ranged documentary resource base for keeping informed about and for pursuing special subjects in the fields of educational innovation and technology.
- An operative periodic communication system in the form of a Newsletter and a Journal with established reputation and wide readership both within and outside the region.
- A stock of INNOTECH publications covering a wide range of topics relating to educational innovation and technology, including research reports, seminar reports, and products of short course activities, adequate to supply user demand on a continuing basis.

Special Services

- Well-established links providing smoothly-operating relationships with national INNOTECH centers and programs, through which INNOTECH products are fed into national programs and whereby INNOTECH activities are continually attuned to needs in the region and are strengthened and supported by the resources and capabilities of the national centers.
- Established procedures, frequently used, whereby professional expertise at INNOTECH is channeled to national programs for short-term needs relating to the purposes of the Center.
- National INNOTECH centers that are within the mainstream of educational planning and policy formation, are adequately staffed and provided with appropriate budgetary support, and are related directly or indirectly to national research and evaluation,

curriculum development, and instructional media development and utilization.

As with all the SEAMEO centers, part of the program impact, again subtle and indirect, which is of great importance, particularly to those who are interested in supporting the development of international and/or regional communities, comes from the bonds of understanding and common interests which result from multi-country participants coming together in shoulder-to-shoulder relationships to find joint solutions to common problems. Thus, participation in the INNOTECH programs projected for the first five years is part of a total SEAMEO process whereby the educators from eight Southeast Asian countries are learning the benefits of working together, and, in the process, are breaking away from age-old separations and are forming a larger brotherhood. This aspect of program impact may in the long run be just as significant as the impact on educational change when the history of INNOTECH is written.

MEKONG PROJECT: HUMAN RESOURCES DEVELOPMENT

The purpose of the project is to develop an action model for the development of human resources to parallel water resource development in the Mekong basin.

During the past 15 years vast sums of money have been spent to develop physical resources in the Mekong basin, particularly the water resources. One of the major accomplishments has been the building of dams which can generate electric power or provide irrigation or provide new fishing areas. It is now clear that in order for the riparian communities to obtain the maximum benefit from the new resources being provided by the Mekong Projects the human resources of the community must be developed with as much care and concern as is going into the development of the physical resources. Recognizing this need, SEAMES decided to prepare a proposal for a project which would develop a model for the development of human resources.

In April, 1973 INNOTECH, SEARCA, TROPMED, and SEAMES prepared a joint proposal for the development of human resources in the Mekong basin. A meeting was held in Thailand, September 21-28, 1974, for the purpose of further development of the original proposal. In order to give the representatives of the Centers a better understanding of the types of resources which are being provided by the Mekong Projects, the first two days were spent in Khon Kaen Province visiting dams, fishing villages, a man-made lake, resettlement villages, and irrigation areas. The remainder of the meeting was conducted in Bangkok. During the meeting further definition and clarification was made of the activities in the areas of health, agriculture, and education. Agreement was reached on some of the possible means for coordinating the activities in the three areas in order to maximize their impact. Various techniques of non-formal education will be used for the educational aspects of health and agriculture. Some of the activities in basic education (literacy and numeracy) will also utilize non-formal approaches. Time estimates were made for the activities leading to the development of the model for human resource development. The overall period of time for the project is five years. The initial phase of the project will be the development of the model in one or more villages. The next phase will be the tryout of the model with minimal assistance from SEARCA, TROPMED, and INNOTECH.

SEAMES, with the assistance of Dr. Robert Jacobs, reviewed the draft proposal with the three centers and prepared a document for final submittal. Representatives from the Centers met with SEAMES in late-November, approving the technical proposal and preparing a budget for the first 18 months.

DEVELOPMENT OF MODELS TO PREPARE TEACHERS FOR NON-TRADITIONAL ROLES

A proposal was prepared in September which focussed upon the problems associated with the training of teachers to assume new roles and responsibilities in innovative and non-traditional educational systems. The problem of the changing roles of teachers, and the problem of how to train for new teaching behaviors, is one which INNOTECH is beginning to face directly as it attempts to develop non-traditional alternatives to the present methods of education. The total study was proposed for conduct in five sites, each of which represents a different non-traditional teacher setting. Estimated cost over a projected three-year period is \$424,525.

The objectives and logic of the study are given below:

Objectives

- ... Validated techniques and materials in teacher preparation for the major types of non-traditional approaches likely to be used in the SEAMEO Region during the remainder of the 1970's, and
- ... An action model outlining procedures for the development of teacher preparation programs for other innovative educational approaches not directly treated as part of the proposed research.

Logic Of The Proposed Study

1. Traditional methods of education are both too costly, and inadequate to meet the needs of Southeast Asia.
2. Numerous non-traditional and innovative educational programs are already underway in this Region, and such programs will come into wider use during the 1970's.
3. Research on teacher preparation should focus on providing teachers with the skills, attitudes, and behaviors necessary for the success of the new non-traditional forms of education.
4. Present non-traditional programs provide an adequate sample of the types of innovative approaches likely to be used in Southeast Asia during the 1970's.
5. The proposed research should sample the major types of non-

traditional programs existing currently and should develop teacher-training techniques and materials appropriate to each type.

6. The study should focus upon critical behaviors, both effective and ineffective, of teachers in non-traditional programs as a basis for relevant teacher preparation.
7. Such critical behaviors should be derived systematically from those who currently are taking part in the non-traditional programs, and observed teacher behavior rather than hearsay or opinion should be used to insure relevancy.
8. Teacher-training techniques should be developed systematically from categories of critical teaching behavior (through description, analysis, and training specification) before an attempt is made to outline a comprehensive teacher preparation program .
9. Training should focus more on practice of desired behaviors than on theoretical knowledge.
10. Once appropriate techniques for teaching each category of teacher behavior have been described, a complete course sequence should be made to insure continuity and comprehensiveness.
11. Portions of new teacher preparation materials should be tried out at present sites of innovative programs.
12. The complete teacher preparation courses (one for each sampled type of innovative program) should be conducted at program sites for both preservice training and inservice upgrading. Evaluations of the courses should be based primarily upon critical teacher behaviors.
13. External experts should be recruited for short periods at appropriate times rather than internal staff expertise being solely relied upon. Targeted times for short-term external assistance should include (a) planning for data collection, (b) analysis of behaviors in the derivation of training techniques, and (c) development of criterion measures of training success.

IN-SCHOOL OFF-SCHOOL APPROACH (ISOSA)

The Philippines has begun a unique program (ISOSA) for the delivery of mass primary education. In essence, ISOSA can be described thus:

- ... One-half of students are off-school (out of school) while the other half are in-school.
- ... Students are in-school for one week and then off-school for one week.
- ... While in-school, students are (1) given post tests on their off-school activities, (2) given remedial help, (3) given enrichment, (4) taught how to use the off-school SLK's, (Student Learning Kits), (5) taught skills needed for off-school learning (for example, skills in observation, interviewing, how to use newspapers and radio, etc.), (6) given readiness tests to insure that they are capable of benefiting from given SLK's.
- ... While off-school, students (1) learn via SLK's (some of which are self-instructional), (2) follow instructions in SLK's on using community resources and persons for learning, (3) come to the school, as needed, to use the library or consult with the teacher.

The Philippine Department of Education and Culture has established eight experimental sites, one of which is on the Island of Cebu ... the location of Project IMPACT. The similarity of ISOSA's off-school learning activities (via SLK's) and IMPACT's modular learning activities is striking. Both are designed for effective learning outside the classroom, and both are intended to make maximum utilization of community resources.

The proposal which was submitted to the International Development Research Center (IDRC) in December is intended as a means for joint development (as much as possible) of the two projects in Cebu. Materials development and production, in particular, would benefit from the joint effort ... in both quality and quantity. By having essentially twice as many subject experts preparing similar materials, much developmental time can be saved, and by the interacting of the two staffs, they will be able to stimulate and learn from each other. Since as much as 80 percent of materials would be highly similar, much time can be saved in typing, illustrating, and reproducing.

There are also two added advantages. First, there will be a chance to compare the feasibility of these two approaches to primary education. Second, and foremost, the children of this Region may benefit from what can become an excellent example of regional cooperation.

APPENDIX

LIST OF PARTICIPANTS

- A. The 9th Governing Board Meeting
(11 to 13 March 1974)
- B. The 10th Governing Board Meeting
(24 to 26 July 1974)
- C. The 6th Three-Month Training Program
(7 January 1974 to 4 April 1974)
- D. The 7th Three-Month Training Program
(22 April 1974 to 17 July 1974)
- E. Two-Week Workshop
(4 to 15 November 1974)
- F. Regional Seminar
(14 to 18 October 1974)

EXAMPLES OF INSTRUCTIONAL MATERIALS

- G. Project IMPACT Modules
- H. Project RIT Mock-ups

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(24-26 July 1974)

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Mrs. Nguyen Ngoc Chau	Professional Staff
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Mr. Frank C. Gillis	Editor

C. LIST OF PARTICIPANTS - THE 6TH THREE-MONTH TRAINING PROGRAM
(7 January 1974 - 4 April 1974)

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(22 April 1974 - 17 July 1974)

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UNITED NATIONS

Dr. Paul Nelson

G. PROJECT IMPACT MODULES

Single pages from Indonesian modules are reproduced on the next several pages.

BANASA INDONESIA

3

Ramai orang memotong padi.



Amatilah baik baik keseluruhan gambar diatas.
Kemudian amatilah sebingkai demi sebingkai.
Gambar gambar itu menunjukkan oran sedang
memotong padi.

Betulkah gambar gambar itu gambar orang memotong padi?

Cocokkan jawabmu dengan kunci

jawaban pada halaman sebalik ini!

PAHLAWAN TEUKU UMAR

Hari ini hari libur. Agus dan ayahnya sedang bercakap-cakap di ruang tamu. Coba dengarkan, apakah yang mereka percakapkan.

Ayah : Agus, apakah kamu sudah mempelajari perjuangan pahlawan DIPONEGORO?

Agus : Sudah ayah, pada pelajaran yang lalu.

Ayah : Bagus, apakah kau ingin mendengarkan seritera pahlawan kita dari Aceh.

Agus : Tentu ayah, siapa namanya?

Ayah : Namanya pahlawan TEUKU UMAR. Coba perhatikan gambar beliau dibawah ini.

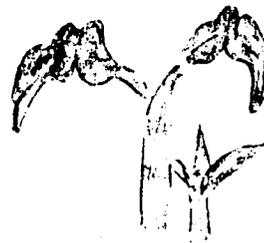


BINGKAI 4

PERHATIKAN GAMBAR DIBAWAH INI



biji kacang tumbuh



anakan pisang



setek batang tebu tumbuh



buah kelapa tumbuh

Pertanyaan: Perhatikan gambar diatas, kemudian jawablah

1. Tumbuhan apa yang berkembang biak dengan biji?
Jawaban:....
2. Tumbuhan apa yang berkembang biak dengan buah?
Jawaban:....
3. Tumbuhan apa yang berkembang biak dengan setek?
Jawaban:....
4. Tumbuhan apa yang berkembang biak dengan anakan?
Jawaban:....

Answers from back of page:

Jawaban:

1. Tumbuhan apa yang berkembang biak dengan biji?

Jawaban: kacang.

2. Tumbuhan apa yang berkembang biak dengan buah?

Jawaban: kelapa.

3. Tumbuhan apa yang berkembang biak dengan setek?

Jawaban: tebu.

4. Tumbuhan apa yang berkembang biak dengan anakan?

Jawaban: pisang.

APPLIED SKILLS: INDCNESIA
(Fish Farming)

SUKARKAH MEMELIHARA IKAN LELE

Memelihara ikan lele sangat mudah.

Ikan lele dapat dipelihara dikolam yang sempit.

Maka ditanah yang sempit, dapat dibuat kolam lele.

Ikan lele dapat hidup baik diair yang dangkal dan jarang diganti.

Dipekaranganpun, dengan air dari sumur dapat dibuat kolam lele.

Memelihara ikan lele lebih mudah dari pada memelihara ikan lainnya.

Misalnya ikan: gurami, tawes, karper dan lain-lainnya.

Ikan-ikan tersebut membutuhkan kolam yang luas dan yang selalu berganti.

Jadi dapat untuk memanfaatkan setiap jengkal tanah.

PERTANYAAN

Lingkarilah B jika betul, lingkari S jika salah.

1. B. S. Memelihara ikan lele lebih mudah dari pada me melihara ikan gurami.
2. B. S. Ikan lele harus dipelihara dikolam yang luas.
3. B. S. Kalau lele dapat dibuat ditanah yang cukup - sempit.

Answer from back of page:

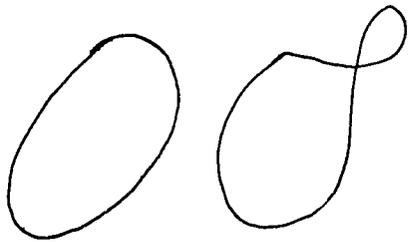
Kunci jawaban.

Kunci jawaban

1. (B), S.
2. B, (S).
3. (B), S.

MATHEMATICS: INDONESIA

Jika kedua ujung tali disambung, kemudian tali diletakkan diatas kertas dengan digerakkan, akan mendapat kemungkinan gambar-gambar:



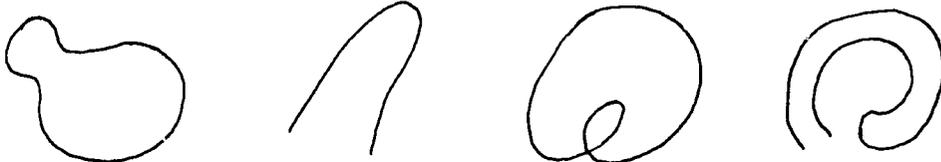
(1)

(2)

(1) disebut Kurva tertutup sederhana

(2) disebut Kurva tertutup tidak sederhana.

Kurva dimana ujung-ujungnya tidak bertemu disebut Kurva terbuka.



(1)

(2)

(3)

(4)



(5)

(6)

(7)

(8)

Kurva terbuka adalah gambar nomor:

Kurva tertutup sederhana adalah gambar nomor:

Kurva tertutup tidak sederhana adalah gambar nomor:

Answers from back of page:

Jawaban:

Kurva terbuka adalah gambar nomor: (2), (4), (6), (8)

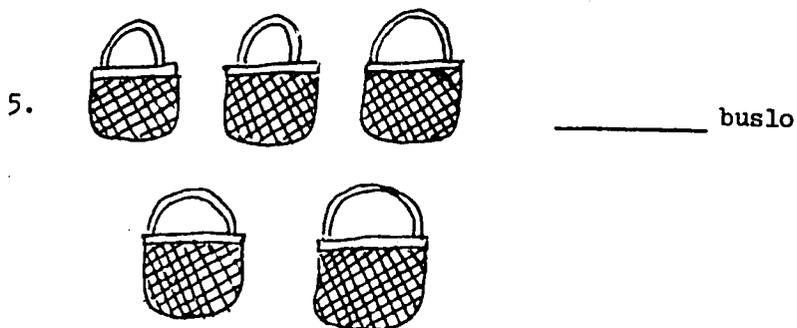
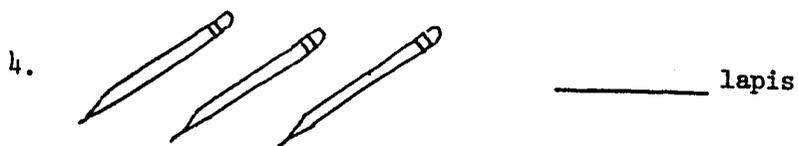
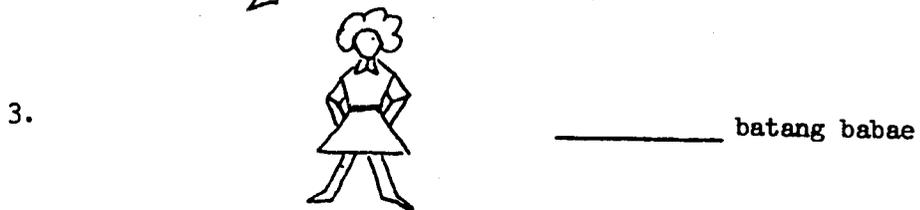
Kurva tertutup sederhana adalah nomor: (1), (5)

Kurva tertutup tidak sederhana nomor: (3), (7)

Single pages from the Philippines are reproduced on the next several pages.

PILIPINO LANGUAGE

LAGYAN NG ANG O ANG MGA ANG PUWANG SA GITNA NG LARAWAN AT NG PANGALAN.



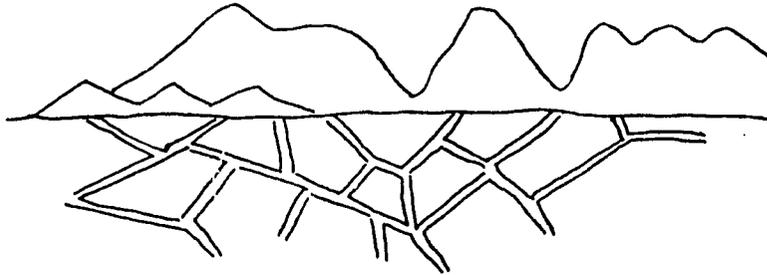
Answers from back of page:

1. ang mga bulaklak
2. ang isda
3. ang batang babae
4. ang mga lapis
5. ang mga buslo

SOCIAL STUDIES: PHILIPPINES

OBJECTIVE: You will learn to show on a map of Naga, the different land forms.

Here is a map of Naga with the different land forms:



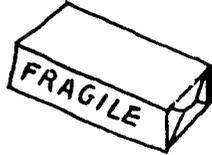
What land forms are shown on the map?

Answers from back of page:

Feedback:

- Plain
- Hills
- Mountains
- Mountain Range
- Valley
- Plateau

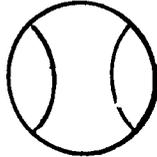
SCIENCE: PHILIPPINES



A box is a solid.



Paper is a solid.



A ball is a solid.



Milk is not a solid.

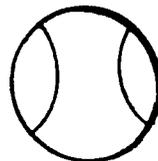


Vinegar is not a solid.

Exercises from next page:

Write the word solid before the pictures below that are solids. Look at page 20 if you need help.

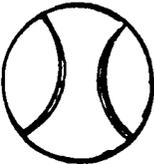
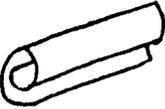
_____ 1.



- _____ 2. 
- _____ 3. 
- _____ 4. 
- _____ 5. 

Answers from back of page:

Feedback:

- solid _____ 1. 
- solid _____ 2. 
- _____ 3. 
- _____ 4. 
- solid _____ 5. 

MATHEMATICS: PHILIPPINES

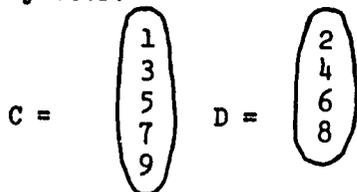
HERE ARE TWO PAIRS OF SETS FOR US TO STUDY. THE ELEMENTS OF THE SETS WILL BE INSIDE RINGS.

READ THE LEFT SIDE OF THE PAGE FIRST

THEN

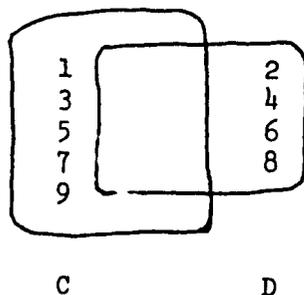
READ THE RIGHT SIDE OF THE PAGE.

My sets:

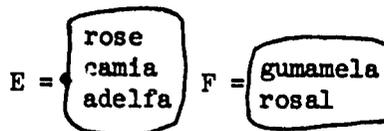


STEP ONE

WRITE THE ELEMENTS OF THE SETS INSIDE THE VENN DIAGRAM, LIKE THIS:

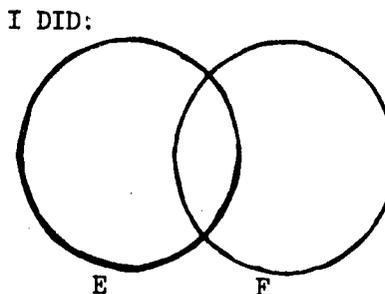


Your sets:



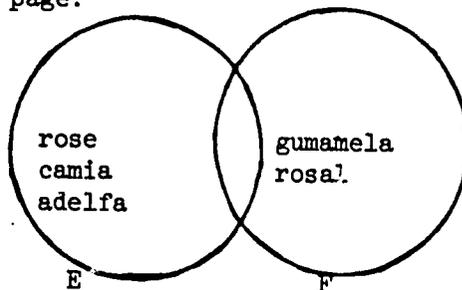
STEP ONE

WRITE THE ELEMENTS OF THE SETS INSIDE THE VENN DIAGRAM, LIKE THE WAY I DID:



Answers from back of page:

Feedback:



H. PROJECT RIT MOCK-UPS

On the following pages are some samples of materials which have been developed by the RIT staff. All of the materials are used in the Vietnamese language. We have included brief explanations in English of each of the approaches.

* * * * *

The following three pages are excerpts from one of the Vietnamese history lessons. The pictures show the Chinese King sending two of his generals to put down the Vietnamese. Le Loi defeats the Chinese generals and ends the ten year war between China and Vietnam. Le Loi then becomes King of Vietnam. The material is for Grade IV. The procedure used is for the students to read the story and then answer the questions which the teacher asks her children, (on the last of the three pages included here). The students then check each others' work and the teacher records the scores.



ĐƯỢC TIN, NHÃ MINH SAI
TƯỚNG VƯƠNG THÔNG
ĐEM QUÂN TIẾP VIỆN.



VƯƠNG THÔNG BỊ BẠI
Ở TUYÊN ĐÔNG, CHẠY VỀ
ĐÔNG ĐỒ KHÔNG DÁM
RA ĐÁNH NỮA.

VƯƠNG THÔNG XIN CẦU
HÒA...



NHÚNG MỘT MẶT
CHO NGƯỜI VỀ TÀU
XIN CẦU VIỆN.



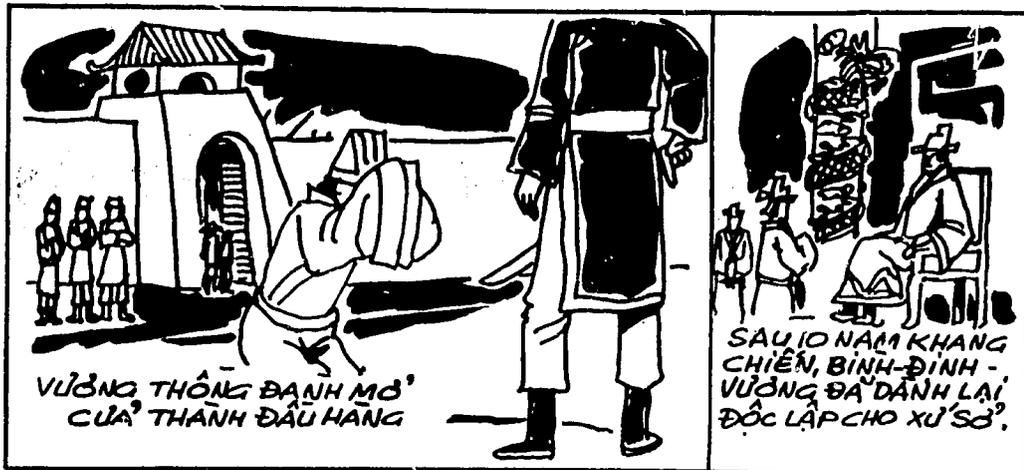
VUA MINH KINH HÃI VỘI CHO
VỚI LIÊU THANG VÀ MỘC THẠCH ĐẾN.



TÀU BÈ-HẠ SA,
GÌ BỌN GIÁC CỎ,
CHUNG THẦN NGUYÊN
ĐEM ĐÁU LÊ-LỢI VỀ
DANG BÈ-HẠ!

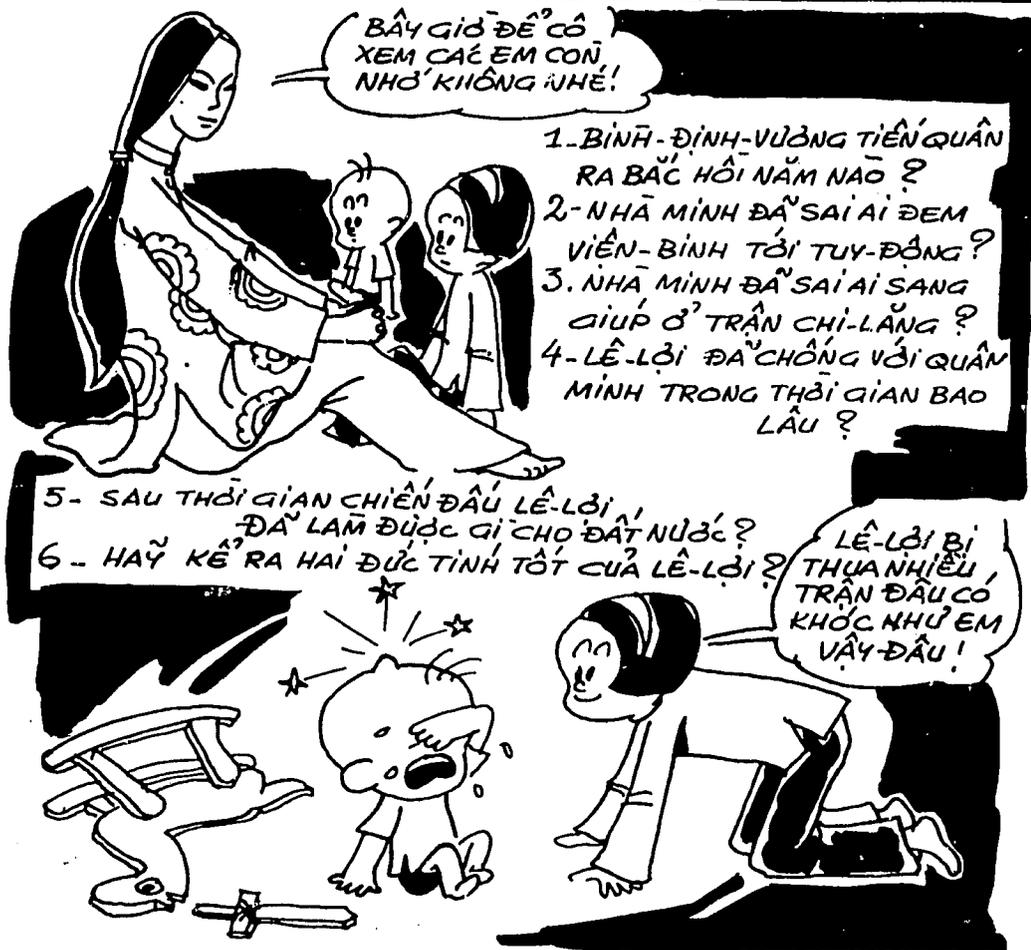
ĐOÀN QUÂN VIỆN -
CHÍNH TIẾN VỀ MIỀN
NAM, CHƯA BIẾT RẰNG
NGÀY TÀN CỦA CHÚNG ĐÃ ĐẾN.





VƯƠNG THÔNG ĐÁNH MỞ
CỬA THÀNH ĐẤU HANG

SAU 10 NĂM KHANG
CHIẾN, BINH ĐÌNH -
VƯƠNG ĐÃ ĐÁNH LẠI
ĐỘC LẬP CHO XỨ SỞ?



BÂY GIỜ ĐỂ CÔ
XEM CÁC EM CON,
NHỚ KHÔNG NHÉ!

- 1- BINH ĐÌNH-VƯƠNG TIẾN QUÂN RA BẮC HỒI NĂM NÀO ?
- 2- NHÀ MINH ĐÃ SAI AI ĐEM VIÊN-BÌNH TỚI TUY-ĐÔNG ?
- 3- NHÀ MINH ĐÃ SAI AI SANG GIÚP Ở TRẦN CHI-LĂNG ?
- 4- LÊ-LỢI ĐÃ CHỐNG VỚI QUÂN MINH TRONG THỜI GIAN BAO LÂU ?

5- SAU THỜI GIAN CHIẾN ĐẤU LÊ-LỢI ĐÃ LÀM ĐƯỢC GÌ CHO ĐẤT NƯỚC ?

6- HÃY KỂ RA HAI ĐỨC TÍNH TỐT CỦA LÊ-LỢI ?

LÊ-LỢI BỊ THỤA NHIỀU, TRẬN ĐẤU CÓ KHỐC NHƯ EM VẬY ĐẤU!

The following three pages are extracted from a linear program in fourth grade science. The topic is evaporation. The students write in the answers and then turn the page to check their work. If they are incorrect they change their answer, if they are right they continue through the program. Thematic prompts are used in this program. During the tryout of these materials the teacher read the materials and the students answered out loud in one approach and in another approach the students went through the program by themselves.

Khoa Học - Lớp 4

SỰ BỐC HƠI

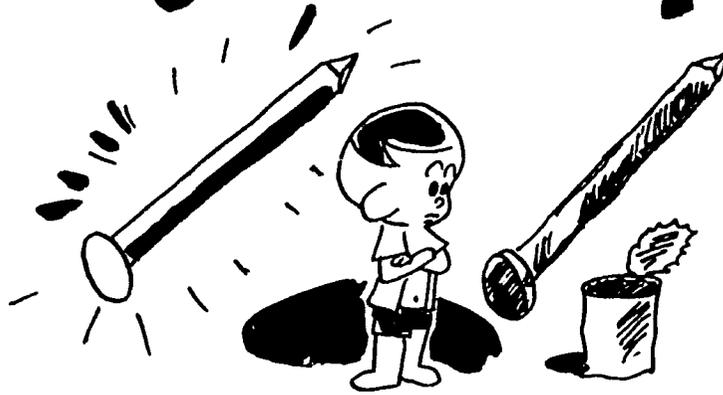
Bắt Đầu	1. Khi nước được đun nóng, nó bốc hơi. Hiện vật có hình thể giống như khói mà em thấy bốc lên từ mặt _____ nóng ấy gọi là hơi nước.
Bốc Hơi	6. Nếu quần áo ướt được phơi ngoài nắng suốt ngày, nó sẽ được khô vì sức nóng của mặt trời làm cho nước trong quần áo _____.
Chấm	11. Các ví dụ vừa kể trên cho ta thấy rằng có một sự bốc hơi mà mắt ta không _____ rõ. Ta gọi đó là sự bay hơi.
Bốc Hơi Ngưng Hơi	16. Để quên quần áo khô ngoài trời suốt đêm, sáng hôm sau quần áo ấy không còn khô nữa, mà lại trở thành _____ vì sương xuống.
Ngưng Hơi	21. Đôi khi nước bị hòa chung với các chất khác. Muốn lấy được nước tinh khiết, trước hết ta làm cho nước bốc hơi và để đó lâu cho hơi nước lạnh lại thì nó sẽ _____.

Nước	2. Em cũng có thể thấy _____ bốc lên từ mặt một bát phở nóng, hoặc một tách trà hay cà phê nóng.
Bốc Hơi	7. Cũng một cách ấy mà bát đĩa khi rửa xong đem ra ngoài phơi, một chốc nó sẽ _____ đi.
Trông Thấy	12. Sự _____ lúc nào cũng có ở chung quanh ta. Buổi sáng, sương đọng trên lá, trưa thì tan hết. Vũng nước mưa đọng trên đường, dần dần cũng khô đi.
Uớt (y-y) (âm ướt)	17. Sương chính là những hạt bụi nước li-ti tạo ra lối hơi nước. Trong không khí gặp lạnh và _____ lại.
Ngưng Hơi	22. Cũng một phương pháp này ta cũng có thể cất được nước hoa nữa. Trước hết ta làm cho chất nước hoa tinh khiết bốc hơi ra khỏi các chất khác chứa trong nước hoa, kế đó ta làm cho chất _____ tinh khiết này lạnh lại và ngưng hơi.

Hơi Nước	3. Một ấm nước đặt trên bếp lửa, nước được đun nóng và một lúc sau thì sôi. Đôi khi hơi nước _____ từ mặt nước đang sôi làm cho nắp ấm bị đẩy lên.
Khô	8. Ta có thể lấy muối trong nước mặn ra, bằng cách đun nóng nước mặn ấy, để chất nước trong đó _____.
Bay Hơi	13. Không những nước có thể trở thành hơi nước như các ví dụ vừa kể trên mà hơi nước cũng có thể trở thành _____.
Ngưng Đọng	18. Hơi nước trong không khí gặp lạnh ngưng đọng lại thành mây. Các cụm _____ đen này gặp gió lạnh thôi sẽ thành mưa.
Nước Hoa	23. Ngoài nước _____ và nước hoa ra, có những chất khác như rượu cũng có thể cất ra bằng cách áp dụng phương pháp này.

The next three pages are taken from a fourth grade science program on rust. The illustrations are each followed by questions which are based on the pictures. The students check their own work on another sheet of paper. When they complete all of the pages in the illustrated booklet they then take a post-test on all of the materials which were covered. This program was also tried out using the teacher to read the questions with the students answering out loud and also as a self-instructional program.

Sự Sét Ri



1 ĐỂ MỘT HỘP SẮT, CÁI ĐINH SẮT NGOÀI KHÔNG KHÍ ÍT LÂU, EM THẤY GÌ BAO CHUNG QUANH NHỮNG VẬT ẤY?
NHƯ VẬY, CÁC VẬT NÀY ĐANG BỊ GÌ ĐÂY?



2 NHÌN CÁI ĐINH BỊ SÉT RI, EM THẤY GÌ?

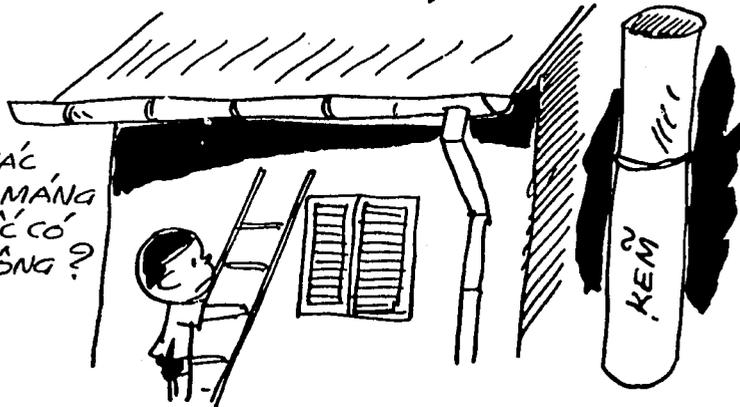


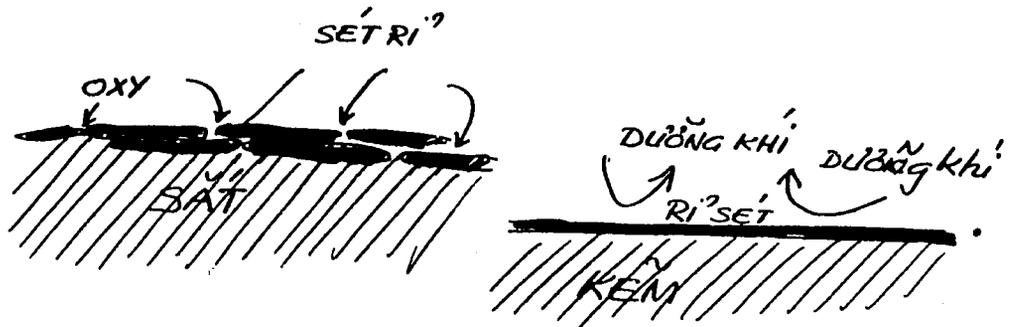
3] SẮT CÓ TÍNH CÁCH ĐẶC BIỆT NÀO ?



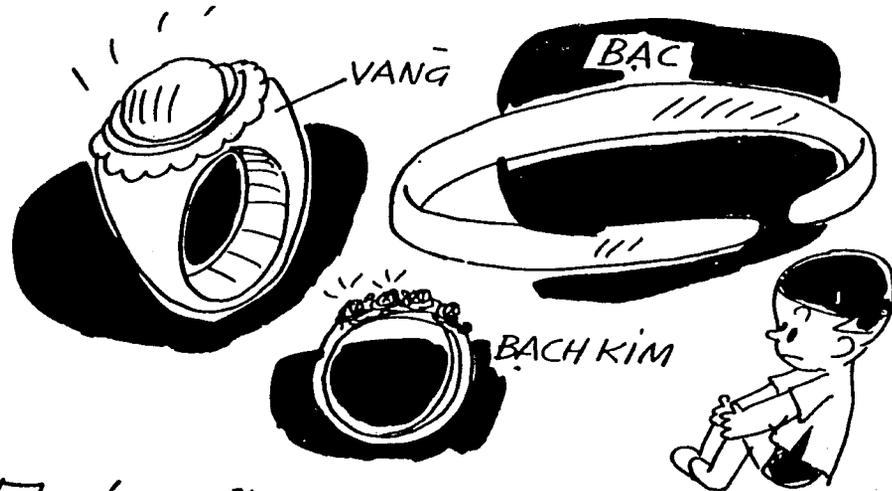
4] NẾU ĐỂ CÂY ĐINH ĐÁ BỊ SÉT RI? NGOÀI TRỜI LÂU HƠN NỬA THÌ NÓ SẼ RA SAO ?

5] KIM LOẠI KHÁC NHƯ KẼM (ÔNG MẮNG NƯỚC VÀ THIẾC CỎ BỊ SÉT RI? KHÔNG ?





SÉT RI? CỦA KẼM KHÁC SÉT RI? CỦA SẮT Ở ĐIỂM NÀO ?



6] CÓ NHỮNG KIM LOẠI NÀO KHÔNG BỊ SÉT RI? ?



VÌ NÓ KHÔNG BỊ SÉT RI? NÊN TAGOÌ NÓ LÀ KIM LOẠI GÌ ?